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Halt! Who goes there?



"Is this another step towards a controlled society? Are we willing to let someone else choose what content is appropriate for us?"

The police in Mumbai recently announced plans to make it mandatory for cyber cafe owners to demand proof of identification from anyone wanting to access the Internet from their establishments.

Did our future on the Internet just take a wrong turn? Are we perhaps seeing the beginning of a trend that will spread to other parts of the country? Or is this just another typical knee-jerk reaction to a situation that no one around here understands?

Consider the stated objectives. To bring under control various kinds of cyber crimes and to curb access to pornographic content.

But what is the point of this move?

Put aside for a second the completely justified concern you might have about your privacy being compromised. Keep in mind the fact that cyber crime is an issue we will need to grapple with sooner rather than later. It still isn't going to work. There are too many ways for people to get around this requirement. At the very least it's going to be completely ineffective.

The bigger danger is that people might become uncomfortable about using cyber cafes to access the Internet. Just at a time when Internet usage needs to be encouraged. Both government and industry are working to develop the potential of the Internet and cyber cafes, which provide inexpensive access to a large percentage of Internet users in India, have a critical role to play in this development process.

Consider also the matter of freedom of choice. Cyber cafe owners will now have to monitor and filter Internet usage. Is this another step towards a more controlled society? Are we willing to let someone else choose what content is appropriate for us? Must we disclose personal information to someone just because we need to access the Internet?

Is this freedom something that needs protecting in a democracy?

To effectively address cyber crimes, our police forces need to gain a better understanding of the tools used by the Internet criminal. It must be made mandatory for businesses to invest in protecting the interests of their customers. And greater synergy needs to be created between the industry and police agencies to tackle this very real menace.

A roadblock isn't usually the most effective way to catch a clever criminal, and it can often be disruptive. But it is usually the most obvious and visible solution to the problem.

Maybe that's exactly the point.



Karan Manral
Assistant Editor
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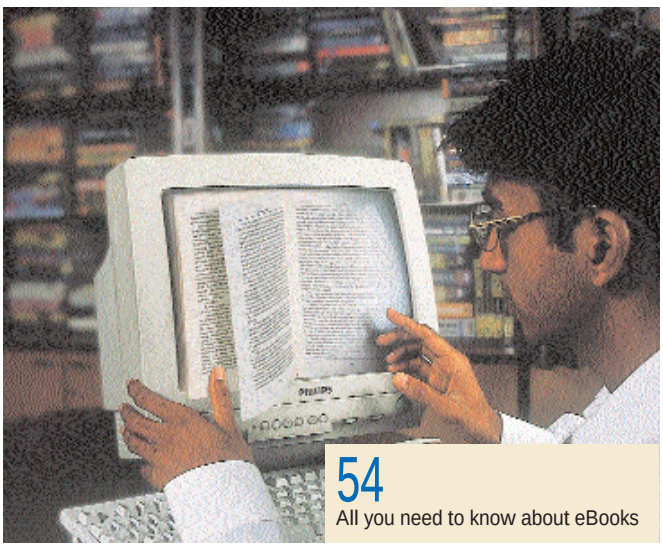
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HOME
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ON THE CD

Mindware

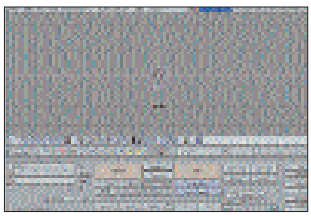
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SOFTWARE DEVELOPERS

BLENDER
This 3D modelling and animation package supports modelling of polygon meshes, NURBS and animation with key frames, morphing, etc.



DHTML MENU BUILDER 3.0
Build HTML based menus for Web pages without writing code, using an intuitive interface, new groups and command elements

GRAPHICS

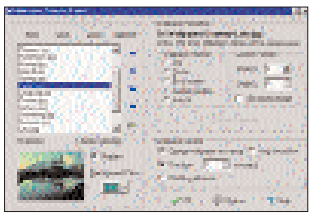
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A wallpaper-changing utility for Windows that allows you to use your favourite images



DBPOWERAMP MUSIC CONVERTER R5
Convert audio files to and from WAV, MP3 and CDA files

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UTILITIES
Ashampoo PowerUp 2000 v1.3 beta (Trialware), Automate4 (Trialware), Freebyte Backup (Freeware), WinImage (Shareware), Xteq X-Setup (Freeware) ZipItFast 2.0 (Freeware)

UPDATES
AVG 6.0 Free Edition virus definition update (Freeware), McAfee VirusScan 4.x, 5.x and Dr. Solomon 8.x DAT File Update, MSN Messenger (Freeware), Netscape Communicator (Freeware), Opera (Free/Adware), Windows 2000 Service Pack 2 (Freeware)

RESOURCES
Adobe Acrobat Reader (Freeware), Desktop Architect (Freeware) DirectX 8.0a (Freeware), Download Accelerator Plus (Freeware), mIRC 5.9 - 32 bit (Shareware), PowerArchiver 2001 (Freeware), Windows Media Player 7 (Freeware), Winamp (Full version), Yahoo Messenger (Freeware)

Playware

GALLERY
Wallpapers, skins, trailers

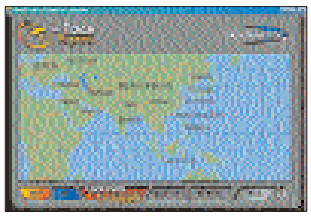
GAMES
Gabriel Knight 3D (Demo), Giants: Citizen Kabuto (Meccaryn's Demo) (Demo),Memory 3D (Demo) Super 1 Karting (Demo), SWAT 3: Elite Edition (Demo) Tiger Woods 2001 PGA TOUR Golf (Demo), Zeus: Master Of Olympus (Demo), Tux Racer (Demo)

and rip music straight from audio CDs and LPs

INTERNET

POPUP KILLER 1.9 BUILD 7
This utility prevents annoying pop-ups on Web sites from appearing on your screen

NEO TRACE EXPRESS V3.0
This freeware version of Neo Trace offers one-click tracing to Web sites and URLs



IN MAGAZINE

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OFFICE

DEFRAG COMMANDER NE
A utility that remotely manages defragmentation schedules for Win 2000, NT, Me and 9x in a network

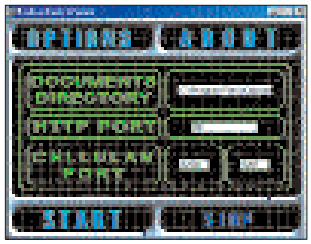
UPDATES

WINDOWS 2000 SERVICE PACK 2
An updated collection of fixes for application compatibility, operating system reliability, security and setup for the Windows 2000 family of operating systems

MCAFEE VIRUS SCAN 4.X, 5.X AND DR. SOLOMON 8.X DAT FILE UPDATE
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UTILITIES

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A single-user WAP server that can be installed on any PC or laptop and allows users to access mail from it



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Reviews of best performing hardware and software products under various categories

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Take control of three different characters in this highly entertaining, irreverent action game with plenty of challenges to face

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Take on the role of the mythical greek god, Zeus and build and manage daily administration and resources of your own city



SURGE
Music galore, featuring Alice, Cornfield and DJ Mary Jane as well as trailers of upcoming movies



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hypethesis

SRSWOWcast

▲What is it?

SRSWOWcast would develop high quality digital audio technology for various media. It provides enhanced voice solutions for streaming over the Internet, Internet radio and also for 3G wireless equipment. They are also catering to a few other segments like VOIP and Internet Telephony.

▲What's so great about it?

SRSWOW is the latest technological innovation, which would enable the restoration of loss that usually occurs while compressed audio is streamed. WOW entirely redefines the quality of music and delivers ultimate music experience to the audience.

▲Who made it?

It's developed and released by SRS Technologies, the world leaders in providing audio and voice enhancement solutions. They have a multitude of audio solutions catering to various segments of consumers. Find them at **www.srswowcast.com**

SNAPSHOT

In 1972

Noel Bushnell, the creators of Atari, introduced Pong, the first video game

UNIVAC, the predecessor of today's business PCs, is now 50 years old

Source: *CNN, Time*

nVidia launches motherboard chipset

Graphics chipset supremo nVidia is looking to grab a piece of the PC motherboard market. The nForce is a new PC platform design, which integrates system, graphics (a GeForce 2 MX core), communications, and audio technologies (Dolby Digital 5.1 Surround) into the motherboard.



The chipset, which will work with AMD processors only, uses the HyperTransport bus, a technology licensed by AMD. It aims to provide an integrated solution for mainstream and performance PCs.

nVidia has also announced that Fujitsu-Siemens intends to use the nForce platform in their co sumer PCs.The nForce is a modified version of a chipset that nVidia has developed for Microsoft's much anticipated Xbox console.

Can Jordan score for Team Palm?

Palm Inc, the leading manufacturer of handheld devices is expected to announce a Jordan-edition device. Hopefully, this will help boost the sales of Palm handhelds, which have been affected by a slowdown in demand for handhelds, which is also affecting rivals such as Handspring. Palm already has a deal with model Claudia Schiffer to endorse a special edition of the Palm Vx device that comes with its own customised software and can be purchased through the model's personal Web site.



DoCoMo puts 3G into action

NTT DoCoMo launched the world's first 3G mobile phone service in Japan. The service, named Foma, is being tested by a few lucky users who will get access to trial services that allow data to be downloaded at speeds between 64 and 384 kilobytes per second.

Full-scale services are unlikely to be introduced until October this year.

Most users seem satisfied with the service despite glitches such as high battery consumption, 'freezing' of phones (solved by a restart), and some trouble accessing mail due to a malfunctioning mail server. NTT DoCoMo has also announced that it will replace all 1,400 3G mobile handsets originally handed out to improve functionality.

Intel responds with Tualatin for laptops

Responding quickly to AMD's announcement of the Athlon 4 chips for mobile PCs, Intel announced the introduction of five new mobile Pentium III chips in July. These are aimed at continuing Intel's total domination in processors for mobile PCs. The 'Tualatin' chips will be essentially Pentium III based, with clock speeds ranging from 866 MHz to 1.13 GHz. Manufactured using a new 0.13-micron manufacturing process, they will decrease power consumption, thanks to a newer, version of the power-saving SpeedStep technology. The current generation of Intel's processors are manufactured using a 0.18 micron process. The new chips are also expected to feature 133 MHz FSB and 512 KB of Level 2 cache. Intel plans to launch lower-powered versions which will compete with Transmeta products for smaller-sized notebooks.

➜

◆ Oracle introduces 9i database solution ◆ Suck.com and Feed.com, and Sabeer Bhatia's Arzoo.com shut down

Digital cameras are hot!

At a time when PC and handheld device purchases seem to be slowing down, one category of personal gadgets that is seeing promising growth is digital still cameras. Growth rates are being projected to be in the region of 50 per cent, despite high adoption rates in countries like the US. The major Japanese manufacturers, namely Sony, Olympus, Fuji, Canon and others in the US like Eastman Kodak and Hewlett-Packard are all hoping that their products will capture the imagination of customers.

Major improvements in CCD resolution and lens technology have brought about a vast improvement in the image quality of the current generation of still cameras.

Apple switches to LCD displays

Apple has announced that it would now stop shipping CRT monitors with its professional systems and switch over to LCD displays. This would make them the first manufacturer to switch over completely to flat panel LCD displays for a major part of their product lineup. The iMac range, however, is likely to continue with CRT monitors for now.

With prices of LCD monitors coming down, partly due to an increase in volumes of LCDs being manufactured, these displays are likely to continue to become more affordable. IBM recently announced a new manufacturing process, which it claims would allow improvement in screen quality and viewing angles, and helps reduce the cost of production.

quicktake

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On e-publishing, an area where it is now making an entry

▲ what is e-publishing?

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▲ What are hybrid books?

Given the rapid developments in software and technology, by the time a book on a particular technology is out, either that technology is outdated or a new version has come out. So after you've bought a book, we give you free updates of that technology or software through our Web site. You can use the unique password issued with the book to login. We are the first in the world to introduce this concept.

▲ What is the future of e-publishing and eBooks in India?

E-publishing hasn't taken off in India because of the copyright problem. Online book publishing and online books will never take off without an offline model supporting it. Furthermore, you would never be comfortable reading large volumes of text off your screen. And again, it would be costlier for you to take a printout of the eBook. So to make the e-publishing and eBooks a success, a lot o work needs to be done to improve computer displays so that there is less eye strain.

Redalert

Comically Yours

Attracting children to activate a virus is one strategy that cyber vandals seem to be taking into deep thought. Pikachu, a yellow rabbit-like character, which belongs to the Pokeman series of games, has shown his happy face to many of the computer users in the US and faithfully deleted their system files also. This little brat has been quite a big menace. The virus researchers from Symantec say that they have never, until now seen a virus targeted at children. In fact, this is one of the first viruses targeted at children as the little Pokeman attracts children and makes them double-click him. The e-mail appears with a title, 'Pikachu Pokemon' and an English message, "Pikachu is your friend".

Pikachu has been spreading very slowly and has given enough time for researchers to put updates with their packs. Despite the fact that the virus has spread slowly, it has had heavy impact on the victims. It deletes the windows and system directories. The OS from the Redmond giant has to be installed from scratch and since it happens to be on most desktops all over the world, it's indeed a heavy impact on PC users. Trend Micro from Japan has warned Japanese people to delete any mail with such a message.

Sulfnbk.exe

A hoax e-mail warning people of a virus, which would be triggered on June 1, was on the prowl for sometime recently. The message stated that your computer might be infected with virus and it asked you to check for a file by the name sulfnbk.exe.

The message added that the virus is not detectable by any of the anti-virus software and that it could be safely deleted by searching it with the Microsoft Find File tool.

People who received the e-mail were astonished to find that the file actually exists in their computer in the Windows directory.

In reality it's a Microsoft file, which is used by the OS to resolve long file names.

The file is harmless and what's more, deleting this system file would make the feature of resolving long file names inactive.

Alarmed by its contents, everyone tried to help their friends, spreading the hoax.

All this started with a virus named W32.Magistr.24876@mm, which infected the file sulfnbk.exe. It was curable with any of the available anti-virus software. The first victim thought that the infected file was the virus and started spreading the message that sulfnbk.exe was a virus.

◆ Norton lays off 10,000 workers ◆ MP3 format gets upgraded to MP3Pro ◆ Mail bug hits NTT DoCoMo mobile users in Japan

realitybites

"It (Linux) is a cancer that attaches itself in an intellectual-property sense to everything it touches"



Steve Ballmer, CEO Microsoft, in another one of Microsoft's tirades against Linux.

Sounds a lot like an MS Word macro virus

"We are targeting fence-sitters who have stayed away from owning a mobile because of a perception that it's expensive"



Sanjay Kapoor, CEO, Bharti Cellular, talking about their efforts to increase the number of mobile users in India by lowering prices.

It isn't too expensive initially. And once you get used to it, you won't mind too much

"Unlike those other products, we offer a compelling package of hardware, software and service"

Rob Bartels, GM for Product Development, Sony Electronics, on why Sony is launching its eVilla Network Entertainment Center at a time when others like 3Com, Netpliance and Gateway have given up on their Internet appliances.

There's one thing you really need to remember... IT'S A SONY

Mastering MP3

Thomson Multimedia, the company that released the original MP3 music format, has released an upgraded version called MP3Pro. Files in the new format are backward compatible and will work with existing software and devices that are designed for MP3 files.

Developed by Stolkholm-based Coding Technologies,



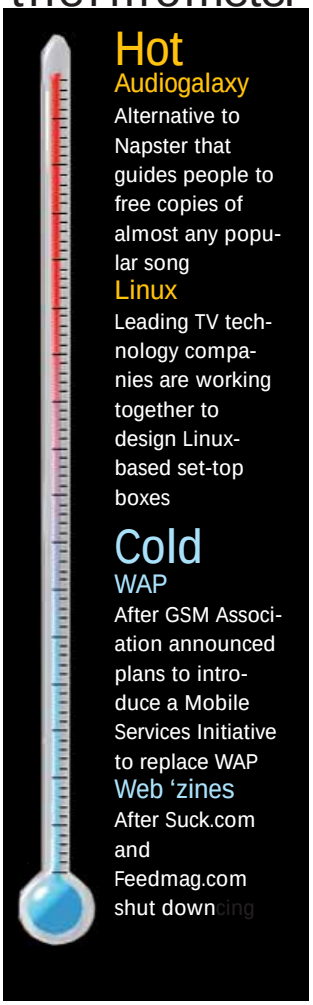
Illustrations: Farzana Cooper

the new format will produce better quality sound at lower bitrates. That is, you can get CD quality sound at just 64 Kbps. You can download a demo version of the MP3Pro encoder from www.codingtechnologies.com.

Mobile Toonz!

A couple of comic stars have become very popular with users of Club Nokia. More than 3,000 Europeans religiously log into this free Nokia mobile Internet site to catch the latest adventures of Flip and Mick. This duo, created by Helsinki-based Moving Entertainment, find themselves trapped inside the pixelated world of mobile phones. About 400 episodes involving the two characters have been created and the company expects to see readership increase to 50,000 by end 2001.

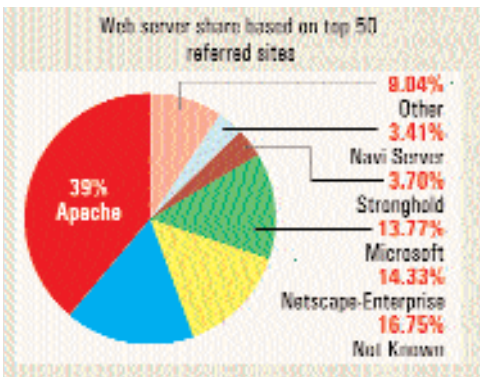
thermometer

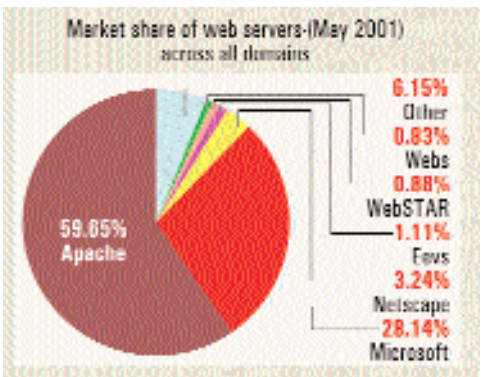


thumbnail

WEB SERVER USAGE

Market share analysis of Web servers based on two parameters:
Top 50 referred sites (based on how many sites link to each server) and across all domains





Source: cyberatlas.internet.com

◆ IE 6.0 will be the first to support P3P (Platform Privacy Preferences) ◆ Japanese government orders takedown of school murder game

Microsoft takes Interactive TV to Europe

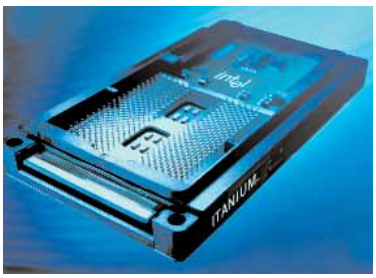
TV Cabo, a Portugal-based cable-TV company, will be the first to introduce services using Microsoft TV software, a platform that allows the delivery of interactive TV services to viewers.

It supports a range of TV devices ranging from current and next-generation set-top boxes and digital video recorders to integrated TV sets, entertainment appliances and other computing devices. Some services that will be offered include e-mail and high-speed Internet access on television as well as interactive programming, electronic program guides and digital video recording.

A lot of the features available are similar to those that Microsoft's Ultimate TV service currently provides to subscribers of DirecTV's satellite service in North America.

Interactive TV does seem to have a lot of potential but has been slow to catch on. TV Cabo's move should boost usage of this technology.

Intel's Itanium arrives. Finally!



Intel has finally announced production of its much-delayed Itanium series of processors for servers. The Itanium, which uses a 64-bit architecture, and has been developed in collaboration with HP, will be pitched against the IBM's Power family and Sun's Sparc processors. Despite the delays in development, initial benchmarks seem to suggest that its performance will compare favourably with existing chips. HP and Dell, amongst others, have been quick to announce products that will use the new processor.

Metrics

$240 million

loss incurred by India due to pirated software in 2000, according to the annual Business Software Alliance Global Piracy Study for 2000.

According to Nasscom estimates for 2008, the number of software exporting companies in India is expected to exceed

4,500

Pentium 4 without RDRAM?

Intel has announced a new 845 chipset for its P 4 processors that will support DRAM (dynamic random access memory) chips that run at 133 MHz. The chipset, which is expected to be released around the third quarter of the year, will be the first Pentium 4 chipset without support for RDRAM. This is a big blow for Rambus, the manufacturers of RDRAM memory, which is much faster than the current SDRAM speed of 133 MHz. Intel's move is probably due to the cost factors involved in going with the expensive RDRAM.

Whois?

XYBERNAUT

▲ *What is it?*

Xybernaut produces most of the wearable computers and has been in this arena for more than a decade. The company claims that it holds most of the patents for wearable computers.

▲ *What does it do?*

Xybernaut works on miniaturising wearable computers, keeping in mind thermal aspects and conservation of power by making these devices versatile. Mobile Assistant, a product of Xybernaut, has the capabilities of a desktop PC. The company was one of the pioneers to have introduced wearable PCs with speech recognition capabilities.

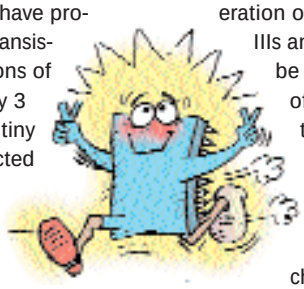
▲ *What is its future plans?*

Xybernaut's plan is to make cheaper wearable computers for each new generation and has the vision of making these gadgets lighter, smaller and more powerful. The team at Xybernaut is working towards improving display devices in such PCs and also improving the I/o schemes and storage options.

tomorrowstechnology

Intel's new atomic transistor

Intel researchers have produced a silicon transistor with dimensions of 80 atoms wide by 3 atoms thick. This tiny switch is constructed with the same equipment that is used to build the current generation of chips (Pentium IIIs and 4s) and can be switched on and off 1.5 trillion times a second. Intel estimates that this research will allow it to build chips with speeds up to 20 GHz over the next few years. The Pentium 4, which contains 42 million transistors and uses a 0.18-micron manufacturing process. Compared to this, the new technology will use a 0.045-micron process and allow an estimated 1-billion transistors on the 20 GHz chip by 2007.



from site ◆ Orbitz.com becomes the fastest-growing site on the Internet ◆ MSN to offer music subscription services through portal ◆

Prying eyes

Hi Karan,

I read an earlier editorial by you and I fully agree with your views on security. However, I am surprised that you guys then go ahead and blatantly provide spyware-embedded software such as Go!Zilla on your CDs. I understand that in order to earn revenue and make the software available freely, software makers have to depend upon advertising support. But this does not justify preying on the privacy of uninformed users. Some kinds of spyware, such as the Aureate/Radiate monster on Go!Zilla, which also prevents the software from working when the spyware is removed, do exactly this.

I believe that as an institution you owe it to your consumers to enlighten the masses about spyware.

JAIDEEP SAPTARSHI
Via e-mail

digit

Dear Jaideep,

I think you will agree that there is a wide gap between the security issues that I discussed and any possible concerns about privacy that spyware could raise. Security, which I was discussing, and any possible piracy are two completely separate issues. We have been very clear in stating which of the software included in our CDs is adware. This is not necessarily the same as spyware, which seems to have become an accepted Internet jargon for any advertising-supported software. The choices available to us are to either completely deny our readers the chance to try out the software or to allow them to make a choice about whether or not they would like to use them. The second choice is the one that we feel is correct. While I agree with some of your observations on Radiate, I think that if you really feel uncomfortable about the fact that the software monitors your usage of it, just go ahead and get rid of it.

Running late

Dear Digit,

You have a BIG delivery problem! After getting in touch with your office regarding the non-receipt of my issue till the 12th, I received a call from your courier company. They informed me that as per their records I had already received my June copy!

Only after extended conversations with your customer service department and challenging the courier company to show me the signed receipt, was I able to get him to admit that "perhaps" there might have been some mistake on the delivery boy's part. They then expected me to wait another day for my copy, and it was only upon my insistence that I received my copy by special delivery at 5.30 p.m. on the same day (June 12, 2001).

Earlier, your distribution had improved to a point when I was getting my copies latest by the 3rd or 4th of the month. However, over the last three months, I have been receiving them around the 12th or 13th. This is certainly not acceptable. Why can't you ensure that delivery is made around the 2nd or 3rd as was done in the past? Late receipt of the copy means that I can't participate in contests that carry an early bird prize. This is adding insult to injury! As a customer of your company since the inception of CHIP, I expect service. I have always received this in the past, but I am sad to say that it has been missing these last three months.

ROBERT DE SOUZA
Via e-mail

digit

Dear Robert,

First, allow me to apologise for the inconvenience faced by you despite being a Digit subscriber. I entirely agree that having to wait till the 10th of the month in order to receive your copy is unacceptable. We shall work with the courier company to ensure that you receive your copy much earlier in the month, as has been happening in the past.

Games people play

Dear Karan,

I find that you do not give sufficient coverage to the *Unreal* series. Your obsession with *Quake* goes to the extent that you have completely ignored the *Unreal 2* engine, which definitely deserves a mention, as it will soon revolutionise gaming. It seems to me that your writers are biased towards *Quake III* and have neglected to mention other contenders.



In past articles on mods, you have failed to mention some of the most popular mods for *Unreal Tournament*. This is blasphemy, or perhaps complete ignorance. You always seem to assume that *Quake III Arena* is the most widely played game, but there are many who play other games too. The gaming world doesn't begin and end with *Quake*. Please keep that in mind for the gaming articles that you do in the future.

ARJUN
Via e-mail

digit

Hatim Kantawala replies:

Dear Arjun,

It's great to hear from a passionate gamer who swears by his games and lives by his mods! I was beginning to think we were an extinct species.

UT probably hasn't got its due in some of our articles. But even an entire article on *UT* mods is bound to seem incomplete. However, I admit we missed out on some very popular ones.

Personally, I find installing and creating mods/maps for *Quake III* much simpler. The source code and tools for them are more widely available. And if you were to compare the number of mods/maps head to head, *Quake III* would win hands down. This hopefuly explains our apparent bias towards *Quake*. We missed out the *Unreal 2* engine basically due to lack of real-time rendered videos, without which any comments on our part would be premature. Ready for a death match?

Too Digit to Quit

Dear Karan,

After hearing about the change, I visited your Web site at www.thinkdigit.com and really liked what I saw. Hearing the reasons for the change of name straight from the 'horse's mouth' made me feel that it is time that we moved on. After all, those very same intelligent, witty, dedicated and hardworking people who earlier made CHIP will still be there, won't they? What originally made me get worked up was the thought that this magazine wouldn't have you people working on it. Now I feel assured of getting high quality stuff just like before. If Digit is going to be what it says it will be, then I have absolutely no problem at all. I shall continue to buy Digit.

Here's wishing Digit best of luck in the future.

ROHIT
Via e-mail

digit

Over the last month or so since we announced the release of Digit, we have received a lot of feedback via our Web site, through e-mail, and through regular post. So many of you, even those who were initially apprehensive about the new name, have written in with words of encouragement.

We would like to take this opportunity to thank all of you for the overwhelming support that you have given the inaugural issue.

Testing grounds

Dear Karan,
Once upon a time there was this wonderful magazine called CHIP. Every month I would anticipate the arrival of a new issue packed with useful information and a CD full of great software. I was filled with trepidation when I heard that CHIP was going to be replaced with a new magazine. I comforted myself by saying that it was the same people who were behind the new magazine, but when I bought the first issue of Digit it was my worst nightmare come true. I found that the paper quality of the magazine had gone down. The anti-virus software comparison was very superficial–I expected better from you. The Playware CD had very few games, and the tutorials and software on the Mindware CD were no good. I could go on and on but I'll stop here. Earlier I used to buy every issue of CHIP without a second thought, but I'll think twice before I buy the next issue of Digit.
Your former fan,
MANOJ JOHN ZACHARIAH
Via e-mail

digit
Dear Manoj,
Wow! That's a long list of complaints, but let's take things one at a time.

Quality of paper: It is still 160 GSM for our cover and 60 GSM for the magazine pages. And we print them at the same printing press too. Superficial testing: We did test more anti-virus products than we did in the previous anti-virus test. We now included testing for features such as e-mail scanning, checked for cleaning of the 10 most prevalent viruses and more. You could find the detailed test process and reviews on the Mindware CD. Going a step further, where else would you get 50 products tested across five categories every month?

Too few games in Playware CD: Perhaps, but we keep receiving complaints that with eight or nine games every month, we are too gaming oriented. CD Tutorials: We've included an exclusive free tutorial from Gurukul Online (Windows 2000 for end-users) in the current CD.

Clearly, however, as you have mentioned in the case of the software on the CD, there are several improvements that we need to make. Your continuous feedback and constructive criticism will only help us improve as we grow. So keep it coming.

Duty free

Dear Digit,
I want to draw your attention to an absurd situation. In the US, a Geforce2 GTS card costs a little more than Rs 11,000. The same is priced at Rs 20,000 in India. That's a huge difference! What exactly is going on? I can understand a difference of a couple of thousand rupees, but this is ridiculous. This price puts this card way out of the reach of people like me. What is the reason for this disparity and why are we in India forced to pay so much more?
SHRIPAD KUDTARKAR
Via e-mail



digit
Dear Shripad,
Yes, it is quite absurd. The high prices, especially for certain types of products like graphics cards, are primarily due to additional duties that are levied at the time of import. The duties add up to an increase of approximately 35 per cent on the original price. Which is why a laptop that is available in the US for $2,000 (about Rs 94,000) would end up costing you about Rs 1,75,000 in India.

Duties are intended to protect the interests of the local industry, but what really ends up happening is that because of the speed of change in hardware technology, it becomes impossible for most Indian manufacturers to compete. Which leaves us paying through our nose for products that are not manufactured in India.

Anybody got a solution? Tell us.

Send your letters marked 'Readers Letters' to the Digit office:
D-222/2, MIDC, TTC Industrial Estate,
Om Sagar Building, Nerul, Navi Mumbai 400 706
Phone: 022-7629191/9200;
Fax: 022-7629224
E-mail: readersletters@jasubhai.com

Goof Ups

- The technology-savvy Lokesh informs us rightly that the graphics processor for the Xbox is not NV20 as we'd mentioned, but NV25.
- Mandeep Mehta is concerned about the value of a scanner we recommended in the decision maker—the HP Scanjet 6350C (the most expensive scanner)—for the price-conscious. Oops…it should have been Acer ScanPrisa 640U for the budget segment and HP Scanjet 5300 in the mid-range segment

Notice any goof-ups? Write to goof@jasubhai.com

Short Bytes

Back to the future

Dear Digit,
The five major changes in Indian history:
Congress to BJP
Corruption to Tehalka
Shah Rukh to Hrithik
Azharuddin to Ganguly
CHIP to Digit
AVIJEET MOHANTY
Via e-mail

In the 'write' frame

Dear Digit,
As this is the beginning of a new phase, I think it is appropriate for Digit to start a section in which its readers can also contribute their articles and not just letters and pieces for Backbyte. This will help make Digit more interactive and interesting to readers.
DAVINDER OBEROI
Via e-mail ■

Dear Davinder,
Why don't you make a start by writing for Digit Dialogue, the quarterly newsletter for our subscribers. E-mail your articles to: dialogue@jasubhai.com

In search of knowledge

Do computer courses provided by private institutions actually satisfy your thirst for learning, or are they just a mirage in the desert? Nilesh Kakade speaks with representatives of AICTE and Karrox

Professor I.K. Bhat
Advisor, All India Council for Technical Education



Computer courses run by private institutes are worthwhile, provided they are run in an efficient and systematic manner, with guidelines for the students and the administration. But currently, there are dozens of 'shops' in every nook and corner of the country trying to pass off as institutes. They fleece students by charging hefty fees for makeshift courses.

For instance, if they sense a demand, they will go ahead and teach a 'career-oriented' course, without the required infrastructure. Classic examples are institutes such as Wintech and Zap, which published full-page advertisements in the media and later shut shop, leaving many a student in the lurch.

Moreover, the quality of training in many private institutes is not up to the mark. The faculty often comprises ex-students of the institute, who may themselves be unclear about the subject they are teaching.

As far as foreign affiliations and certifications are concerned, these certificates are legally invalid in our country. Certain universities don't even have accreditation in their parent country, and are offering courses here without any quality controls and inadequate or incompetent faculty.

AICTE is in the process of putting up detailed guidelines for a more structured system of education. This would serve as a deterrent for people who try to create unrealistic aspirations among gullible students, while consistently failing to deliver the quality of education that is expected from them.

"There are dozens of 'shops' trying to pass off as institutes...they will go ahead and teach a so-called 'career-oriented' course without the required infrastructure"

AICTE would like reputed corporates such as IBM, Wipro, Sun, etc to join hands with us to start modular short-term courses in the non-formal sector in a structured manner, so that our students and professionals are trained on industry-specific courses. This would reduce the retraining cost for the industry and also enhance practice-oriented teaching in institutions.

Jitendra Nair
VP (Software and Education Division), Karrox International



Courses from private institutes can be very good, provided you bear in mind the repute of the institute and what you learn from it. Companies from the organised sector have better technological and personnel strength to back up the students' requirements than institutes from the unorganised sector, which don't have the competence to deliver.

Private companies provide several benefits to students. These include a trained faculty, customised courses tailor-made to industry needs, exposure to real time environment and pre-placements (students get jobs at the company that trains them).

"A majority of students from private institutes get good jobs. Today, organisations believe in skillsets rather than degrees and certificates"

Other deciding factors are the quality of training, courseware and the company's credentials and background. The technology base should also be evaluated before a student decides on an institute.

About foreign affiliations and alliances, these provide some very obvious benefits, such as certified trainers, official courseware developed by the parent company, high certification value and licensed software for the institute. It also shows the institute's commitment to students, as it has to pay substantial affiliation fees with stringent renewal terms.

A majority of students from private institutes get good jobs. Today, organisations believe in skillsets rather than certificates and degrees. While the cream of recruiters may insist on BEs and BTechs, if they don't get the profile that they seek, they turn to qualified, certified professionals from private institutes.

In fact, many students at private institutes are from engineering colleges, indicating that latest software technology training from private institutes has become indispensable.

The steps taken by AICTE are very encouraging. This will make all institutes answerable to a particular body. But while conceptually it is a very welcome sign, its implementation should be fast-paced and not get bureaucratic.

What do *you* think? Come, speak your mind at www.yahoo.co.in

www.yahoo.co.in
Catch 'em live on Yahoo!
Jitendra Nair on July 12 at 4 pm and *I.K. Bhat* on July 19 at 4 pm
YAHOO! India



The future of online education

A resistance to change is the primary hurdle in the way of online education reaching its full potential in India

r. krishnan

No other Internet application has received as much attention as the use of the Net for education. Online education is more than just online content—it includes peer-to-peer and student–expert interactions, evaluation and assessment, and access to additional learning resources. Tomes have been written on the market potential of online education, with estimated figures varying from $11 billion upwards.

Most education companies and universities are in the process of experimenting with a variety of business and instructional models—from the completely free online content that MIT plans to host to a lot of combinations of brick-and-mortar and Net-based systems.

> Using the Net for education does not mean the end of the classroom. Rather the classroom, the Net and the teacher will have to restructure their roles in the learing process

Large Fortune-500 companies have all embarked on some form of online initiative, with a few setting up full-fledged virtual universities to impart training to their employees, partners and distributors. For the student there are now a host of graduate and post-graduate programs available on the Net, offered primarily by universities. Most schools in the US have some component of access to Internet resources as part of their education methodology.

In India, the cost effectiveness of online training, though accepted at the conceptual level by organisations, has not found many takers. Only a few progressive organisations are implementing some pilot programs. While technology/infrastructure is often cited as a reason for not implementing, the more deep-rooted issues are cultural acceptance and changes in mindsets. The relationship between the faculty and students has been one of the most enduring ones from the dawn of civilization, and will not change in a hurry. At the student level, it remains, at best, a matter of curiosity and at worst, a fad.

Where do we go from here?

In the context of the dot com world crashing all around us, belief in e-learning has so far weathered the downturn. E-learning has the potential to be the next killer application of the Net and in the words of John Chambers, CEO of Cisco, "…the scale of network traffic generated by e-learning, will make today's exchange of e-mail messages look like a rounding error". But in order to make this potential a reality, leaders of organisations and educators must spearhead a 'cultural revolution' to put technology-based learning in perspective. Most importantly, the use of the Net for education does not mean the end of the classroom.

Rather the classroom, the Net and the teacher will have to restructure their roles in the learning process. Such changes have happened before, but they take time. To take a very Indian analogy, in ancient India the only format of education was for the student to live with the master for many years.

Through this extended interaction it was believed that knowledge would pass on from master to pupil. Imagine the consternation of the guru if he were told that from the next year his students would come to the classroom (ashram) for a few hours a day only, and then return home. Yet this classroom method has been the only way that we, in our generation, have experienced education! A similar inflection point is now occurring as the Internet comes to play a greater role in our lives.

The future of learning is e-learning. This is true of all the segments: K-12, graduate education, corporate training and continuing education. As we move to a connected and networked world, the Internet will become the primary tool for learning, suitably supported by the classroom and faculty.

R. Krishnan is the COO, Content Services, Jasubhai Digital Media. You can e-mail him at r_krishnan@jasubhai.com



All for One and One for All

Gaming consoles are all set to be transformed from single-utility gaming machines to multifunctional devices that will significantly blur the differences between themselves, the PC and home consumer electronics

vinit aggarwal

Convergence. You've heard it, I've heard it, and it's coming. Simply put, convergence is the consolidation of a wide range of technologies and devices into a single, more open device. Which means that you will be able to do a lot more with any one device.

For example, Interactive TV merges the convenience of the Internet with regular television and the cellular phone in your pocket acts as your PDA and MP3 player. But what fascinates me is the extremely rapid pace at which technology and entertainment are converging.

These 'toys' (next generation console systems) are on an invevitable collision course with home consumer electonics

Next generation console systems are positioning themselves as general-purpose entertainment devices rather than mere video game machines. With home theatre functionality, USB and FireWire (iLink) ports, expansion bays, and online connectivity, these 'toys' are on an inevitable collision course with home consumer electronics. In fact, Sony is going out of its way to re-christen the PS2 as a central hub for home entertainment, facilitating all aspects of digital entertainment from electronic gaming, home audio/video, to Internet browsing and even doubling up as a digital video recorder. Not bad for a $300 game box, is it?

Sony's new alliances with America Online, RealNetworks and Macromedia will bring the PS2 one step closer to becoming a true Internet Appliance with Web browsing, e-mail, streaming media and instant messaging. I for one am eagerly looking forward to this, as now I'll be able to beat the stuffing out of some PS2 user in *Quake* and taunt him on Instant Messenger till he either blocks me or logs off *my* Internet!

Microsoft's much-hyped Xbox is the first game console to feature built-in broadband connectivity and a beefy hard drive. Running a derivative of the Windows 2000 OS, the Xbox can easily be mistaken for a high-end PC at a low-end price. Remember the commotion when Netpliance's i-opener Internet Appliance was modified to function as a Linux-based PC? I'm sure that someone will figure out a way to unleash the true potential from this Pentium powered box.

With Sega announcing that it plans to license out the Dreamcast technology to consumer electronic manufacturers and VM Lab's NUON providing 3D interactive graphics and audio to DVD players, set-top boxes and digital satellite receivers, single-function appliances will become a thing of the past. Soon we won't need to spend money for each individual device since these new age appliances will combine a host of functions.

Digital entertainment will finally become a de facto part of every home, since the largest barrier is the cost of these various technologies and not their acceptance.

Another interesting parallel is that these game boxes will soon provide a real threat to the dominance of traditional beige boxes that sit on your desk. The most widespread uses of Home PCs are productivity applications, surfing the Internet and using multimedia content. With Internet connectivity, bucketloads of storage space, USB ports and a $300 (approx Rs 15,000) price tag, I'm sure that these over-the-top consoles will soon be replacing the PC in many a home. Convenience is an important factor too. Gaming machines will provide the perfect starting platform for the technologically challenged. It doesn't take a genius to figure out how they work—switch power on and put disk in drive.

As technologies for gaming consoles become more and more PC-like, I believe that these beefed-up game consoles are the best candidates to fulfil the promise of convergence of PCs and other home electronics!

Vinit Aggarwal (Editor, Computer Gaming World*) loves slapping anyone who calls gaming an indulgence for children. You can contact him at vinit_aggarwal@jasubhai.com*

Photograph: Mexy Xevier, **Imaging:** Neeta Wadiker



Let the SHOW begin

First it was music, and now it's movies. Digital technology is all set to bring you hassle-free video from the Net to your PC with crystal-clear sound and picture

VIDYARAMANAN S

Circa 1970: An evening at the movies. Mother dresses the kids for the outing and father takes his car out. At the theatre, it's fun time, with popcorn and Amitabh Bachchan.

Cut to 2003: It's movie time again. Father, mother and kids get comfortable on the couch. Mother switches on the home theatre system, and at the same time logs on to the Internet. The screen on the wall comes alive with Anjelina Jolie as Lara Croft. Is this fantasy? No. It's happening and it's happening now. Digital video is already an established fact and now online relay or streaming of movies is making its presence felt.

Video is going the same route as MP3 music, and distribution of films over the Net is fast catching on. Most Internet sports and news sites stream video to attract viewers to their sites. ESPN has been relaying live sports over the Net and so has CNET, a news company that has a store of news videos for you to choose from and view. If you missed a particular news coverage on the TV or on the Net, you could always go to the archive and catch up on what you missed.

All this has been made possible through technologies such as Codecs (Compressor-Decompressor) that crunch the size of movies so that they can be rushed through the Internet across the world.

Frame by frame

Digital video is measured in terms of number of frames per second and by the size and the resolution of these frames. The total size requirement for video is huge, particularly if one wants NTSC (National Television Standards Committee, of

the US) video. A 640x480 image with 24 bits of data representation for colour and a frame rate of 30 per second easily gulps down a staggering 27 MB and that's without sound. Streaming or downloading such a video would be next to impossible. This is where compression comes into action.

The digital media currently available such as VCDs do not project good quality images due to variations and drawbacks in the existing digitisation methods. Moreover, these movies require greater space and hence you would need more than two to three CDs for a single movie. The current digital video standard used by video coders in SVCD (Super VCD) is MPEG-2. SVCD is midway between DVD and VCDs. MPEG-2 does not keep full copies of every frame of a video; it preserves the details of only those frames where there is a change. DVD does compensate with higher precision, preserving frames for perfect picture delivery and better sound effects. But the cost of a DVD is higher and the amount of space occupied by a DVD movie would be more (3.5 GB at a maximum). Thus, existing standards have certain drawbacks, which lead to a need for an improved technology, providing better picture quality, high-quality sound and a drastic reduction in the size of the movie.



DLP projectors from Texas Instruments

It's live!

Streaming video has been around for quite some time, and the video technologies till date range from low-quality streaming audio with an occasional picture to traditional download-and-play systems for a variety of file formats. The issues impeding the popularity of streaming video are compression and bandwidth. About the latter, nothing can be done unless technology improves and low-cost, high-bandwidth services are obtainable in the market. Compression is something that has seen improvement down the years. Microsoft, Apple and RealNetworks are some of the key players in the Internet streaming video arena, and streaming of video over the Net is currently usually done with standard formats developed by these companies.

Streaming works on the principle of buffer-and-deliver method. When the user clicks on a video, the associated application is launched and the video is buffered packet-by-packet on the client side and relay starts once enough packets have been acquired from the server. Thus, the user need not wait for a full download of the clip that he wants to view. Streaming has the advantage of live relay and also store-and-relay service over the Internet. But the issue here is one of quality—of picture and sound.

With newer Codecs, images would be sharper and near-DVD quality. The method and channel of distributing video and movies will change if these technologies prove to be successful in the market.

Already Apple is working on Darwin, a streaming media server that will allow you to start your own Internet broadcasting company for news, entertainment and educational programmes. It's built on the industry-standard Internet protocols, RTP (Real-Time Protocol) and RTSP (Real-Time Streaming Protocol). This enables the video-on-demand service by serving clients with QuickTime movies of their choice. Companies like Cisco and Sun are also taking part actively in the streaming video market. Texas Instruments is working on DLP or Digital Light Processing. It claims that DLP Cinema has the ability to project clearer, more realistic digital images than the current generation of analog movie projectors.

It's important to realise that the development of these technologies will mean much more than just developing a set of improved Codecs.

Honey, I shrunk the films

DivX is the new kid on the block, changing the way video will be delivered in the near future. It's a highly efficient video compression file format adapted from Microsoft's MPEG-4 Codec, removing some of its limitations, such as its inability to save files in AVI format. With DivX-based encoding program, a full-length movie in letterbox or full-screen format can be encoded with near-DVD quality and saved onto a single 650 MB CD! The compression ratio is an astounding 44:1 from AVI to DivX format.

This makes it the next step in compression technology for video delivery on the Internet. DivX uses the MP3 Codec for sound and hence the sound quality of DivX movies is enhanced.

Open Sesame

At present, ripping a DVD is illegal, so is putting

Compressing Data

A Codec, used for compressing video files, is any technology that can compress and decompress data. Codecs can be implemented in software, hardware, or a combination of both. An example of a hardware Codec would be the DVD decoder cards that accompany many DVD drives in place of such software as Power DVD or WinDVD. Codecs can simply be looked upon as plug-ins to a system to allow interpretation of a type of file that the operating system cannot recognise. For instance, if you download a movie trailer that has been encoded in MPEG4 format using the DivX Codec, you will need the same Codec installed to watch the trailer. For more information on Codecs and their functionalities visit **www.codecs.com**

Most compression methods are either Lossy or Lossless. Lossy compression doesn't perfectly represent what was compressed, but it's close enough given the size savings. Lossless compression guarantees that what goes in at one end comes out at the other end and hence compression in this case causes no loss in quality. Lossless compression isn't really a consideration when dealing with video over the Internet. Compression always involves a trade-off between picture/sound qualities and file size, with larger files obviously resulting in longer download times.

Infographics: Jaya Shetty

What's Cooking?

RealSystem iQ by RealNetworks points to the future of media delivered via the Internet. It is preparing itself for a future when video-on-demand, gaming networks, and broadcasting to wireless devices become commonplace. RealSystem iQ uses a distributed architecture that can deliver digital media-to-media networks and even consumer devices beyond the PC. For more information on RealSystem iQ, you can log on to **www.real.com**.

Active Streaming Format (ASF) is Microsoft's offering to the streaming media world. ASF files can be played locally, over the network or over the Internet while maintaining the quality of the picture and/or sound. The small size of ASF files lends itself easily to medium quality video clips being transported over long distances. Microsoft has also released Windows Media 8, which can be used for streaming as well as for downloads. It has a compression efficiency of an additional 30 per cent over Windows Media 7 and offers near-VHS quality at 250 Kbps, and near-DVD quality at 500 Kbps. Windows Media 8 comes with Digital Rights Management, which can be a form of succour to the movie industry plagued with rampant piracy.



A clip from the sports site of ESPN, which allows the user to pick the connection speed so that he can view the highlights or the full video of a particular series or game



Streaming technology enables you to watch a video while it downloads. This means that you need not download the full movie to see it, which is a great relief for the low-bandwidth users. Streaming is done as shown in the figure. First the movie frames that are to be relayed are created and they are put on a server for digitisation and compression. This process could be called encoding or just compression. The compressed movie is sent to the media server which acts as the base, from which the user requests movie clips for viewing. The streaming audio and video could be relayed as and when requested or it could be a live relay. For the live relay, the media server and the compression at the encoding server has to be extremely fast, so that the user finds no delay in frame relay

up a DivX-encoded movie on a Web site. They are either available as one big chunk in one of those free drive areas or available as 25 MB chunks which could be downloaded and combined to frame a full-length movie. But this is likely to change soon. Jerome Rota, a 27-year-old Frenchman, the mind behind DivX, is preparing to release a complete, legal version of the video and audio encoding technology that does not require the use of Microsoft's MPEG-4 Codec. You would then be able to download movies from the Internet, if they are released legally over the Net.

Another project that is working towards an open standard version of the complicated compression technology—OpenDivX, is Mayo. Mayo believes that there has to be an open standard that's independent of any existent technology and this has resulted in OpenDivX. DivX Deux was released as OpenDivX on January 15, 2001. This is an open standard, so anyone interested in DivX can register, have a peek at the code, analyse it and submit suggestions for the enhancement of the project.

According to the developers at Project Mayo, "The Project Mayo vision is a world of standard video technologies that deliver mind-blowing, stunning visual quality, and a wide set of tools and applications on a variety of platforms..."

Stux, the brain behind the DivX player for Mac, and his team are working on a new DivX Codec called 3ivX. The team claims that their Codec is going to be a fully open source Codec and will be optimised, so that the file size is considerably reduced with no compromise on quality. But the most important part of the 3ivX is that it will be fully streamable. As DivX is not streamable in its present state, 3ivX would surely gain popularity.

3ivX targets wired and wireless markets such as movie distribution, set-top-boxes, video-on-demand, video conferencing, Internet TV, in-flight entertainment, game consoles, etc. Besides, 3ivX is multi-platform, so the same file can be viewed on all OSes. The team also claims that services like Digital Rights Management, encryption, and payment systems are all possible. This would in a way aid the movie industry to choose the appropriate digital wagon to distribute movies on a pay-per-view basis.

Hold the popcorn yet!

Download movies? Sounds great, except for one thing. Is your connection up to it? Bandwidth is the main issue as far as downloading movies from the Web is concerned. For a mere 1 MB mail over a dial-up connection the average user keeps his fingers crossed. So you can imagine what will happen if you try downloading a DivX movie. At least for now, DivX movies are meant for users who use ISDN, cable or T1 lines.

Besides, all said and done, one simply cannot ignore the issue of copyright and other legalities involved with downloading DivX. Hollywood is facing the same issues plaguing the music industry and it's facing them sooner than it expected. The software program that is turning out to be the source of Hollywood's digital headache is DivX. The movie industry is waging an aggressive legal battle to protect its copyrights. The Motion Picture Association of America (MPAA) recently joined hands with the recording

The Game behind the Name

DivX is the brandname conferred on high-quality video compression technology. But there are different naming standards that you might come across such as DivX, DivX ;-), and OpenDivX. To a certain extent their fundamental idea is the same. They are all part of the DivX family. The difference in version is what introduces changes in the name.

DivX ;-) is version 3.11 of DivX and OpenDivX is version 4.0. The latter is not a backward compatible version, which means that it will not be able to play version 3.x rips. Formats produced by these different versions are not the same. OpenDivX would be packed with new features and it would be multi-platform.

industry to sue Scour, whose online file-sharing service is similar to the 'music bazaar' offered by Napster. While the studios fight in court over online distribution of movies, they are supporting the creation of technology that provides for secure transmission of video over the Internet.

SightSound technologies is a company that provides for video and audio download and file-sharing supporting the motion picture and music industries as they adopt digital distribution. This year, the company demonstrated the first Internet-based movie download system for distribution in theatres.

This revolutionary technology model gives people the choice of selecting between entertainment from the digital platform and other conventional means. SightSound offers short films for rent or sale on its Web site, depending on the kind of transaction that you have with the company. For rentals you could view the movie as many times as possible during the rented and allotted time slot. The Pennsylvania Company encrypts the files, and then sells electronic keys that unlock the file once for a rental or permanently for a purchase.

Final take

Because digital compression technology is improving all the time and making it possible for great quality video to be distributed easily over the Internet, movie distribution companies are looking to use this medium to offer content to you. However, you can already see the beginning of a Napster-like situation where illegal download of movies off the Net will increase the rate of adoption of digital movie formats by consumers. This will force the hand of the distributors, as their revenues are likely to be affected. Irrespective of who comes out on top at the end, what's inescapable is that movies on your PC, and via the Internet are coming, whether or not the industry is ready for it. The only thing that is stopping anyone (consumers or movie companies) right now is the availability of the required bandwidth. Cutting-edge compression technologies and high-speed Internet access are poised to remove that last obstacle.

http://www.

www.microsoft.com/windows/windowsmedia/en/WM8/default.asp
For more information on Windows Media 8
www.realnetworks.com
Learn about RealSystem iQ
www.3ivx.com
Know how DivX ;-) is used for streaming
www.sightsound.com
All about Digital Rights Management

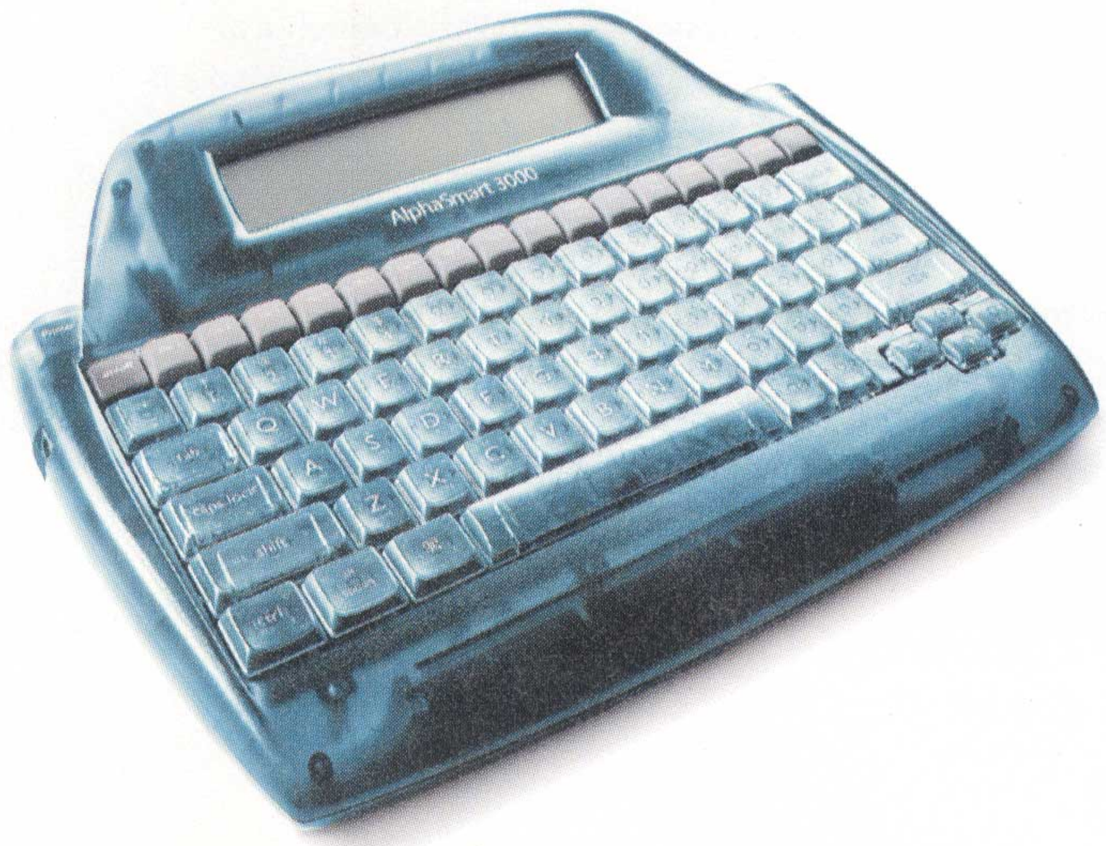
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Eye Candy!

Cool desirables ranging from a PDA, walkman, digital camcorder to more....

Sure, some of them might be worth an arm and a leg, but what the heck, it's not every day that you get to feat on the best.

So go ahead, what are you waiting for. Add them to your wish list.



AlphaSmart 3000

Spin those words

This is a simple, portable and affordable computer companion that is compatible with PCs, Macs and most printers. It includes a full-size keyboard and a four-line text display, and runs on 3 AA batteries. You can type, edit and store approximately 100 pages of single-spaced text in eight files. The text can then be transferred to any computer for formatting, or output directly to a printer.

Web site: www.alphasmart.com



Motorala V. Series 60c phone

Sleek and handy

This sleek instrument uses a new Motorola user interface for improved navigation. What can you do with it? You can re-arrange menu items or frequently used features using the customisable main menu. You can access news, stock updates and more via the Internet using the built-in microbrowser. You can listen to FM radio through an optional headset accessory, or record conversations, memos or other VoiceNotes. You can store up to 400 numbers in the phone book. The iTAP software anticipates the word you are trying to spell when entering text in e-mail, short messages or other edit modes.

Web site: www.motorola.com



MASS C3H15
Triple Wide Horizontal

Triple wonder

This awesome display features a trio of 15-inch flat display panels, each of which supports resolutions up to 1024x768.

The central display is devoted to your desktop while the two perimeter displays provide continuous monitoring of remote data feeds containing time-sensitive information.

Web site: www.massedi.com

Sony MZ-G750DPC MD Walkman

Musical notes

This player-cum-recorder uses Sony's MD format and features an FM/AM digital tuner, a remote control, headphones and a digital PC link that allows you to connect to your PC and use any jukebox such as Music Match, Real Audio Player, or others to record music you may have downloaded from the Internet to your PC. Each 80-minute MiniDisc can be used to store up to 320 minutes of music.

Web site: www.sonystyle.com



Panasonic PV-DV901 Digital Camcorder

Picture perfect

This DV camcorder uses a Mega Pixel CCD to capture images and produce incredibly high-resolution pictures—you can use it as a still camera to shoot pictures of up to 1200x900 resolution! These are stored on a 16 MB removable SD memory card (included). The images can then be moved to your PC via a three-way PC link. You can also transfer still images from your PC onto the Mini DV tape via a serial cable. The camcorder features connectivity for the industry standard IEEE1394 (Firewire) interface and 10x optical zoom.

Web site: www.panasonic.com



Sanyo SCP-5000

Look who's calling

This compact little phone has a relatively large colour display and allows voice-activated dialling, caller ID, a special four-way navigation key, games, calendar, a world clock, and wireless Web access. The SCP-5000 gives you access to the Internet, voicemail and voice memo by pressing a single key. The address book will store up to 500 phone numbers and about 300 e-mails.

Web site: ww.sanyousa.com





Photograph: Rahul Sharma, **Imaging:** Ram

PLAYING GOD

Developing your own game may take longer than the creation of the world, but the thrill remains

ANIL PATRICK R.

What could be more satisfying for a gaming fanatic than starting off each day with a round of *Unreal Tournament* and wiping the last grains of sleep from his eyes by blasting the living daylights out of some unsuspecting fellow online gamer?

Well, how about holding the power to play by your own rules and getting others to follow them as well? True paradise is being able to build your own game. The one thing more satisfying than being able to kill that vicious monster in the final boss level of a game, is knowing that you created him! Could things get any sweeter? You better believe it! Because it always helps if the game you churned out also rakes in the money for you! And if nothing, then the adulation of the gaming community, or the chance to be the next 'John Carmack' should draw you into the gaming arena. Did we get your attention?

We're talking professional game development here. No child's play this. This is a highly competitive field and only the best survive. And to the victors go the spoils. But it's not all fun and games.

Do you have it in you?

While there are many kinds of job options in the gaming industry such as for designers, programmers, play testers, producers, sound and music specialists, writers, etc, it isn't exactly a cakewalk ➜

The Game Architects

Developing a game calls for a whole lot of effort and time from several people. These are the experts who make a game possible. Here's a look at what it takes to be one of them.

Artist/animator: The people who make all those breath-taking environs and animations in a game. You need creativity and good drawing skills and familiarity with various 2D- and 3D-rendering software.

Designer: The folks who give the game its groove with the skills of an artis and a basic knowledge of programming fundamentals.

Programmer: The people who make the games tick. You need to be self-directed, have excellent knowledge of mathematics, trigonometry and physics, in addition to excellent programming skills.

Producer: The head honcho, he takes care of the organisation part. Producers are usually programmers or lead artists or have moved up the ranks from quality assurance.

Game tester: They run a game through its paces by rigorous testing. Long attention span, ability to communicate efficiently, and good memory are a must.

Music composer/sound engineer: The magicians behind the stunning theme music and sound effects. The music composer writes music keeping the character and situation in mind and should be a professional.

Concept writer: Every game has its own story, which is crafted by the concept writer. To be one, you need to have good communication skills, and understanding of how games work.

to get a foothold in the industry. To get into the arena you must have at least a year of experience to grasp the graphics and programming requirements. The entry-level requirements for a fresher are much higher than in most other programming professions. And it takes a lot of hard work.

The gaming industry is a dog-eat-dog world, especially in India where it is still in a fledgling state. So if you have any illusions of having a pleasant time with a 9 to 5 schedule where all you do is play games, now's the time to drop out! The real picture includes some 50-hour or more working weeks, very tight deadlines, and even tighter competition. The game development cycle can take months, sometimes even years as in the case of complex 3D games such as *Quake III*.

Well, so much for the hair-raising part. Now for the good news. The gaming industry provides, in most cases, flexible working hours, informal working conditions and good pay. If that's not enough, the thrill of seeing your game gaining popularity in the market is the ultimate ecstasy that any gaming geek can ever wish for!



> Programming games is not like standard programming. A game programmer requires more logic, even a lot of creativity"
>
> Nitesh Wadekar
>
> Project Manager, Indiagames.com

The starting blocks

The most essential requirement for any aspiring entrant into the world of game development is a burning passion and love for games. You need to have an in-depth knowledge of how games work, which can be attained only through playing games. Critical appreciation and insights into the game through close observation are the key here. How does the game operate? What makes it appealing? What are the goals—the different win-and-lose situations?

For instance, consider a game such as *Quake*. Here the focus is on being constantly alert and on the move, gaining attributes such as health, weapons, etc. Observing the manner in which your opponent behaves gives you an idea of how artificial intelligence (AI) is used in the game. Look at the graphics employed in the game—how is the visual effect going to enhance the experience? How does the game respond to the entire chemistry (or rather Physics) of inputs from the mouse, keyboard, joystick, etc?

Check out the graphics, the animation being used, how the background music improves the feel of the gameplay. Think about how you would improve the game if you got the chance. Try to understand the experience that the developers tried to incorporate into the game.

But be warned—dropping out of school to study gaming on a full-time basis is not an option that you would want to consider. The game industry does not exactly encourage dropouts. A BE or a BTech in Computer Science would go a long way in helping you land that first job, especially in programming. Make sure that you have a sound educational background that is relevant to the area of the gaming industry that you want to enter.

By design

If the labyrinths and arenas that make *Unreal Tournament* such an out-of-the-world sight and the cool graphics is what blows your mind, and you are simply itching to put your own vision into effect, then design is where you should be headed.

Though the term 'designer' is widely used, there is no such thing as a game designer. The term is loosely used to define a whole lot of jobs related to designing games, such as lead designer, concept artist, level designer, texture artist, skin artist, modeller, animator, and computer game cinematic animator.

You need some basic things in your satchel before you set off on the path to becoming a game designer. First of all, get well acquainted with design software such as Director, 3D Studio Max, Maya, Photoshop, Flash, Illustrator, Lightwave, etc.

Director is very useful if you want to design 2D and 3D games (with Director 8.5), and comes with the Lingo scripting. Almost all 3D games such as *Quake*, *Doom*, etc have 3D models that usually make use of software packages such as 3D Studio Max and Maya. Illustrator proves handy when it comes to character animation. There are a whole host of free software tools that you can download from the Net and work on towards level designing . This is the best way to learn how to build your own game as well as learn the ropes.

Although you don't really need a degree in fine arts to make the grade as a designer, it is imperative that you have good drawing skills since designers are often required to make concept sketches.

It doesn't end there. A good understanding of Physics (how else are you going to animate ➜

The Indian Gaming Industry

The Indian gaming development industry is still a niche industry, though rapid inroads are being made. Some of the pioneers in the field are Indiagames, Dhruva Interactive, and Vbeing. You also have online game offerings from **Nazaragames.com**, **Contests2win.com** and **Gamesmasti.com**.

Dhruva Interactive: Developers of the 3D technology demo titled *Saloon*, and the game *Mission: Impossible*, Dhruva Interactive develops games for overseas clients.
Address: Dhruva Interactive, 946, 12th Main, 5th Cross, HAL 2nd Stage, Indiranagar, Bangalore 560 008.
Phone: 080-5267091
E-mail: info@dhruva.com
Web site: www.dhruva.com

Indiagames.com: The developers of India's first 3D shooting game titled *Yoddha – The Warrior*, Indiagames develops games for the Internet, CD-ROMs, touch screen kiosks, gaming consoles, etc.
Address: Indiagames.com Ltd, 4A, Diamond House, 35th Road, Off Linking Road, Bandra (West), Mumbai - 400 050.
Phone: 022-649 6712/3
E-mail: jobs@indiagames.com
Web site: www.indiagames.com

Vbeing Software: Having started out as a company to provide customised software solutions for e-commerce, Vbeing has branched out into game development as well.
Address: Vbeing Software Limited, G-29, Lajpat Nagar III, New Delhi.
Phone: 011-6821329
E-mail: develop@vbeing.com
Web site: www.vbeing.com

the guy falling off a castle?) and human anatomy (so you can get all of Lara Croft's curves in the right places!) will add to your proficiency as a designer. So will a fundamental knowledge (at least) of programming aspects. You need to understand the technical aspects of the platform for which your game is being designed. Only then would you be able to create models effective enough for your system to support. For instance, when a game is designed to run on a system with an 8 MB graphics card, as a designer, you need to keep the hardware constraints in mind. If you churn out graphics that require higher capabilities than what the card can provide, the game is bound to mess up.

Programmed to work right

The importance of designing aside, the real magic lies in interweaving all those graphic objects into a game. This is where the programmer steps in.

The programming field also involves several levels—the lead programmer, 3D programmer, gameplay programmer and the network programmer. How can one get into one of these jobs, you ask? A true and undiluted love for gaming, coupled with some sound programming knowledge will take you there.



> It is always best to try developing a simple 2D game. This will help you get the basics of game programming right
> Vinay P. Namboodiri
> Graphics Department, NCSE

As a beginner, you need, first of all, a good knowledge of OOPs fundamentals. You need to have an in-depth understanding of languages such as C and C++ if you want to develop a 3D game in particular. Learning the ins and outs of Windows programming with tools such as Visual C++ is also very useful. And if you can get the grasp of assembly language, nothing like it.

A good grasp of the fundamentals of embedded C++ is essential for developing games for Pocket PCs and Java-based development tools for the Palm OS. Developing games for mobile phones calls for an understanding of WAP technology. A thorough knowledge of Flash or Director helps if you have a penchant for online games. Other tools that can be used are JavaScript, ASP, VBScript, etc. Oh, and did we mention a good understanding of scripting for game engines such as the A4, *Quake* or *Unreal Tournament* engine?

However, merely being good with C or C++ is not going to get you anywhere. You have to know the tools you use in and out as well as the platform for which your game is being designed. Other than the quintessential tools, you also need sufficient knowledge of mathematics, physics, computer architecture, AI and expert systems and networks. Knowledge of DirectX and OpenGL is also necessary. Knowledge of graphics-related aspects such as using colour palettes, image optimisation, etc is always a plus point for a programmer. You also need to understand aspects such as porting which, put simply, involves getting a game designed for Windows to also work in Linux.

Before you take the plunge though, it always helps to gain some professional insight. Meet Nitesh Wadekar, Project Manager, Indiagames.com who started his career as a Web programmer, then went on to multimedia programming and finally game programming. Says Nitesh, "Programming games is not like standard programming. A game programmer requires more logic, even a lot of creativity. Even an excellent Java programmer cannot get into game programming unless he has that special something in him."

Rolling out your own game

So you've mastered the tools required. Now what? The best way to get noticed by the industry is to develop your own game. "It is always best to try developing a simple 2D game using sprites (cells in an animation) at first. This will help you out in understanding and getting the basics of game programming right," says Vinay P. Namboodiri, who works at the National Centre for Software Engineering's (NCST) graphics department.

You can start off with simple 2D games such as *Hangman*, *Tic-Tac-Toe* or *Tetris* in C, C++ or some other language, rather than a full-fledged 3D game. You can even use Director for games with a presentable level of graphics. Be careful not to overdo the graphical elements as it tends to make the game slow and also, this is your first step buddy! A demo with just one level is more than enough to showcase your talent. Make sure that the game you're working on is the kind that you like to play so you can do full justice to it.

Now comes the time to test your creation. Get some of your friends and people you know to play it. Their feedback will be very useful in

improving the game. However, don't show it to too many people as this may confuse you about the quality of your game.

If you're into graphics, you can even design game levels, or if you prefer modelling try designing 3D models that can be showcased on your Web site or sent on a CD to the company you want to entice. Another popular course is to make maps and mods for games such as *Quake*, *Half-Life* and *Unreal Tournament* to gain an understanding of aspects such as level design, texture design and 3D-modelling techniques.

Breaking free

How do you go about establishing contacts and making forays into the gaming world? Here's what you need to do. Keep yourself updated with the latest trends in game development and upgrade your skills by downloading the various freeware tools from the Internet and by reading books. You can compile your game and send it to gaming companies on a CD or put it up on your personal Web site, if you have one, so that companies can check out your game.

When sending across your resume, remember that nothing speaks louder than experience. Companies like to look at the work you've done—the game(s) or levels you've developed. Customise your resume after doing some background research on the company. This will help you prepare your resume according to their requirements and area of expertise. Showcase skills such as communication and management abilities, etc, since they count a lot in this industry.

The most common path that aspirants take is to start their career as a play tester. This not only gives you a toehold in the industry but also gives you an opportunity to understand how the industry operates, as well as develop more contacts in the gaming arena. Contacts are a major driving force in your game development career. Make sure you have the right contacts if you want to succeed.

The opportunities

While the future of the gaming development industry in India may look bleak at present, there are opportunities coming up in the near future. Already, gaming for handhelds and mobile phones is becoming quite popular. So, if you hold the dream within you, keep it burning as by the time you acquire all the necessary skill sets, this industry is going to be ready with enough opportunities.

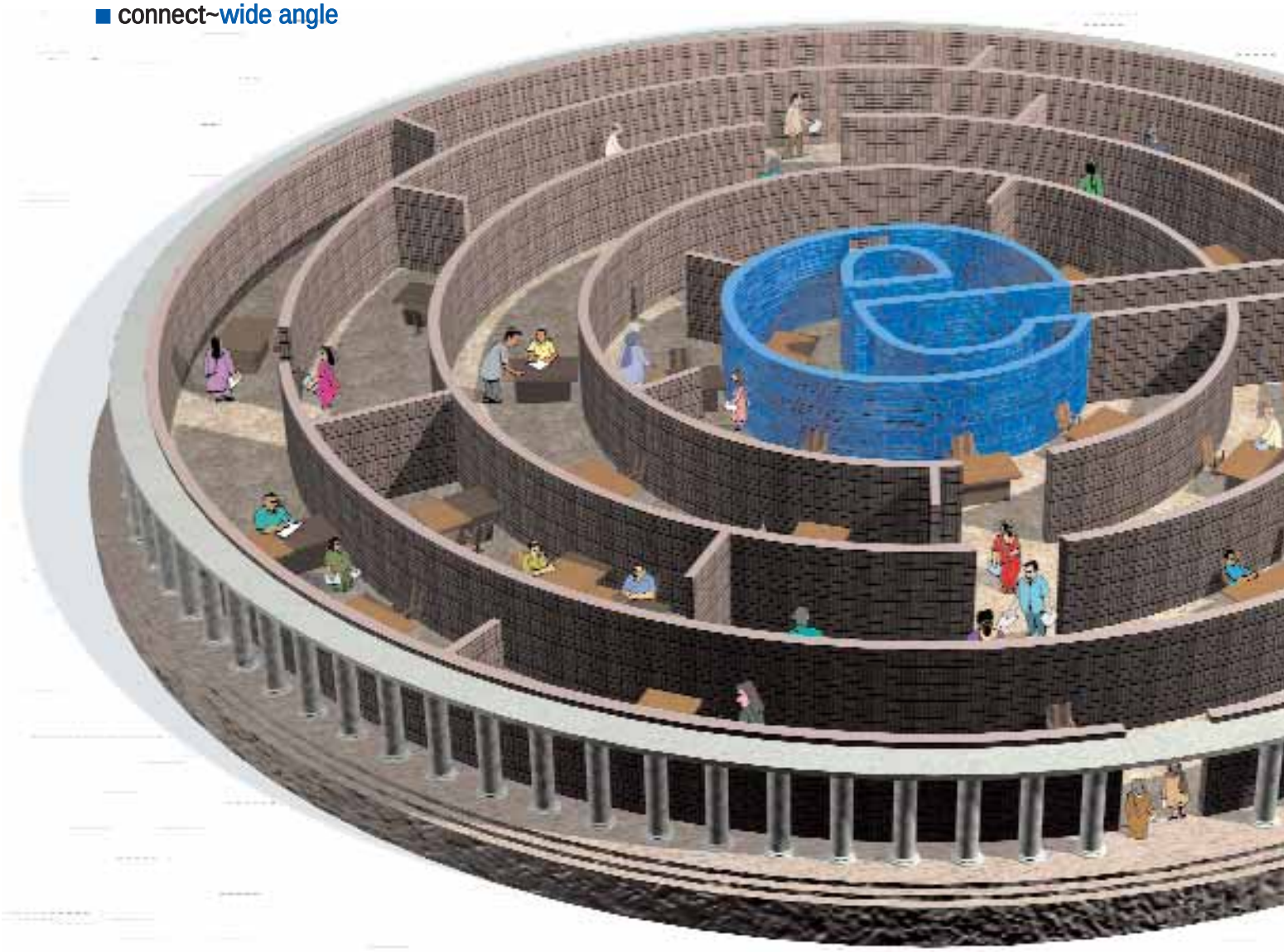
If you have visions of making it really big in game development overseas, then the UK is the place to head for. The UK is the hub of the gaming industry with almost all gaming majors having a presence there. Even Australia and New Zealand are picking up as offshore development centres, and therefore, you get a wider scope to create some serious waves in the gaming industry.

Considering that we have some of the best and most cost-efficient programming manpower available, game developers from other countries may consider it worthwhile to outsource the job to Indian companies. Make the right moves, and in a couple of years you could be employed as a full-fledged game developer right here in *apna Bharat*.

http://www.

www.gamasutra.com
Check it out for comprehensive programming resources
www.gamedev.net
This is yet another useful site for aspiring programmers
www.dperry.com
A thorough guide for game developing aspirants

1/2 page V. AD



Digital Democracy

E-governance promises to fulfil the dream every Indian dreams of—a progressive country

NILESH KAKADE

Want some work done from a government office? You know the drill. Hundreds and thousands of poor souls are standing outside the Indian public distribution service department or the local tehsildar's office at this very moment, to apply for a ration card or a house loan or a license to start a new business. They all know the drill.

First, you stand in a mile-long queue. Be prepared for a long wait, because your work will never get done on time. Then let your file do endless rounds of the same office, or grease the palms of some slimy middlemen just to get to the officer concerned. Tired of this delay-n-corruption? Feeling irritated? Helpless? Frustrated? Well, don't start tearing your hair in despair, there is hope yet. Hope in the form of a concept called e-governance.

Enter the e-age

E-governance basically means governance enabled by information technology. The administrative process is a tedious one and involves various levels of interaction between people and the governing body.

To face the challenge of managing this interaction effectively, the government is taking the help of information technology. E-governance will allow you to electronically file your



Illustrations: Ram

—it works!

applications, get information online about the status of applications, obtain other general information about any government department, deposit state levies and taxes and even file your returns electronically. Under ideal conditions, citizens will be able to undetake basic tasks or gather information such as application status for a passport, filling in provident fund forms, etc, without ever having to visit any government office.

Provision of such information through e-governance will reduce one step in the chain of activities, thereby doing away with a bit of the red tapism normally associated with government services. And because most transactions that occur can be monitored easily through reports that will be automatically generated from a database, there is greater likelihood of transparency in the administrative system.

The e-nitiative

Keeping in mind the benefits of e-governance, the Ministry of Information Technology has declared 2001 the year of e-governance and is encouraging the state governments to work towards this. Training programmes on IT applications and e-governance are being held in many states for employees in government institutions.

The passage of the IT Act, 2000, is another step in promoting e-governance. The Act gives legal recognition to electronic documents and digital signatures and allows government records to be kept in electronic form. It even permits applications and forms to be filled up.

These processeses are another step towards decentralisation—important for any meaningful decision-making process. Planning in four important sectors—services, environment, industry and agriculture—will be decentralised through active participation from people.

Challenges ahead

The greatest impact of e-governance will undoubtedly be felt in rural areas, where the bulk of our citizens reside. Herein lies a challenge as well as an opportunity for the government.

Due to the extremely low level of penetration of IT in the Indian society, the government will face cultural and attitudinal barriers not just from the masses but from employees as well. Communication barriers will also have to be overcome. It is unlikely that the layman in rural India will understand any other language besides his own mother tongue. So, multilingual software packages with user-friendly interfaces are being developed that can work across platforms and be used in different states. A start has been made and it is heartening. Here are two examples of how e-governance is bringing a new wave of change across the countryside.

Case I: Dhar—the messenger of knowledge

The Dhar district in Madhya Pradesh has used e-governance in an exemplary manner. Their project, called Gyandoot, has been envisaged to cater to the social, economic and developmental needs of the villagers through an innovative G2C (government to citizen) model. Gyandoot is basically an intranet connecting rural cybercafes and

Andhra Pradesh: Digital State

Andhra Pradesh claims to be on the fast-track towards the digital age with chief minister Chandrababu Naidu championing the cause of providing IT for the masses.

Apswan: Network for voice, data and video communication throughout Andhra Pradesh. Operational with 2 Mbps fibre optic links and scalable up to more than 600 Mbps, connecting the State Secretariat with 25 centres.

Card Project: Manual system of registering and preserving documents of immovable property transactions replaced by a simple and transparent system.

Fully Automated Services of Transport: Provides services such as issuing learner's licenses, driving licenses and registration of vehicles through a comprehensive, networked solution.

Secretariat Knowledge Information Management System: Generic product that efficiently manages information and knowledge at the Secretariat.

Andhra Pradesh Development Monitoring System: A system that helps in research, analysis, project design and monitoring of state projects.

AP is putting efforts not only into transforming government activities into e-mode, but is also giving a secured environment to the IT market—from production and trading companies to educational institutions and consultancies. Keeping future investment in view, AP has established a new technology park named Hi-Tech City. It has its own power supply and broadband telephone lines for faster Internet communication.

Maharashtra: Economic Powerhouse

It is the financial capital of the country, but in recent times, some technological innovations have been happening.

Registration of New Vehicles, Issue of Licenses, Tax Collections and Defaulter Prosecutions: Developed for the Motor Vehicle Department of Maharashtra.

Stamps and Registration Project: Clearing backlogs. Department staff trained for software. Plans to integrate all 300 offices in a phased manner.

Department of Irrigation: A comprehensive MIS for the Department of Irrigation, Government of Maharashtra.

Integrated Information System for the Sales Tax Department: The system is designed to facilitate electronic business such as electronic filing of returns and payment of taxes. Most application forms will be available on the Web, which can be downloaded and used.

These projects are just some of the initiatives taken by the government, and the administration has met with success in its ventures.

The state has given IT top priority and that is evident in the International Infotech Park set up at Vashi, Navi Mumbai. Besides this, the government is also keen on setting up a Millennium business park.

Maharashtra State Road Development Corporation (MSRDC) has helped to lay telecom ducts with fibre optic capacity for various prospective users.

information kiosks, called soochnalayas, catering to the everyday needs of the people, whether they are related to commerce, education or health.

According to Rajesh Rajora, Collector, Dhar District, "We started off with e-governance services in the quest to bridge the digital divide. The network has shown outstanding results, with more than 55,000 users in the last 18 months. One out of two users belong to the Below Poverty Line families, one out of three users belong to the SC and ST category and one of seven users are illiterate! The network has empowered the disempowered."

Its innovative use of the administrative system and functioning has won Gyandoot the Stockholm Challenge IT Award 2000 in June last year. Gyandoot was declared winner in the 'Public Service and Democracy' category out of 109 IT projects from all over the world. It was also awarded the CSI-TCS National IT Award for best IT usage, instituted by the Computer Society of India, for the year 2000.

Behind the scenes

The entire expenditure for the Gyandoot network has been borne by the village panchayats and private entrepreneurs. The total initial cost was Rs 25 lakh, with additional investment from private parties for expansion of the project. The average cost incurred in establishing a single kiosk was Rs 75,000.

The kiosks have dial-up connectivity through local exchanges on optical fibre or UHF links. As of now, the system is hosted on a Pentium III Remote Access Server (RAS) located in a computer room of the zilla panchayat and connected to all the soochnalayas. Keeping in view the widespread power cuts in rural areas, the soochanalayas have been equipped with UPS systems that can run the computer and printer for four hours at a stretch without power.

Out of 34 soochanalayas, 25 already have optical fibre connectivity. And by the end of June 2001, the remaining would also be connected through optical fibre lines. "We have gone into Wireless in Local Loop technology developed by corDECT/TeNet in IIT Chennai," says Rajora. "This state-of-the-art technology provides 70 Kbps bandwidth along with wireless telephony. Phase I of the technology has already been introduced," he adds.

A simple menu-driven Hindi software is used in the machines, which requires minimum data entry at the client end. Gyandoot Samiti, a registered society, supports the project to run the intranet and various services. Local people manage the soochnalayas, so this not only generates employment, but they are also able to handle and resolve queries faster, through their understanding of the local processes.

Case II: Land in my hand

Just about a year ago, Karnataka's farmers faced the delay-n-corruption drill if they wanted to procure the record of rights and tenancy and cultivation certificate (RTC). Now, the state government's initiative to computerise land records under the Bhoomi scheme and issue printed RTCs has come like a boon for them.

The details of all land records can be obtained from one of the 40 touch-screen kiosks installed at the various taluka offices in Karnataka, at the cost of a mere Rs 15. The state has some 6.7 million farmers and 17 million land records spread over 30,000 villages, and is spending a hefty amount to digitise all the documents.



The success rate of the e-governance implementation is such that the Government of India has requested the entire team behind the e-governance initiative to visit other states and try helping them replicate this model

Rajeev Chawla
Additional Secretary (Revenue), Govt. of Karnataka

Rajeev Chawla, the additional secretary (Revenue) of the Government of Karnataka vouches for the success of this scheme. "The success rate of the e-governance implementation is such that the Government of India has requested the entire team behind the e-governance initiative to visit other states and try helping them replicate this model so that the concept of e-governance catches up in as many states as possible," he says.

Trading the old for the new

The land record computerisation software, called Bhoomi, has been designed by NIC, Bangalore. The initial data entry is done at the taluka level through private data entry agencies. After that, printouts are taken, which are validated by comparing them to the original land records books. After this correction, the data is ported onto Bhoomi.

This software incorporates online updating

SUCCESS STORIES

How Digital Technology went to the Countryside

The Gyandoot project (**www.gyandoot.net)** has really helped the villagers of MP's tribal hinterland in making their lives simpler and by benefiting them economically. Here are a few of the success stories that abound.

The house that Gyandoot built

On June 21, 2000, Kamalabai, a poor tribal lady from Dantoli village of Sardarpur development block, complained through a kiosk that the entire sanctioned amount through the Indira housing scheme had not been disbursed to her. At that stage, her cottage was half built and the rainy season was looming large.

Merely seven days after her complaint had been sent, an officer came for ground verification and completion of all other formalities. The sarpanch then gave her the remaining amount and she was able to complete her home before the rains began.

Bride through kiosk

Mohanlal and Suraj Khati of Bagdi village are two unmarried young men. They came to know about the 'online matrimonial' facility available at soochnalayas.

They came independently to the soochanalayas and registered themselves to scan the available data of young women for a bride of their choice. Imagine their joy when each found the girl of his dreams. The hitch? Both of them liked the same girl from Dhar. Now, both are competing to reach out to the girl's parents. *Kaun banega pati*?

Online transaction? Sure!

A cow for Rs 3,000. This is the first real e-commerce transaction in the rural area of the tribal district. Kalsingh of Mirjapur village wanted to sell his cow. He registered at the soochanalaya of nearby Gunavad village to put up his offer of the animal online. He received four trade enquiries on his account and he finally sold his cow to the highest bidder, Premnarayan of Dilawara village. The auction facility of the Gyandoot enables trading of commodities like milch animals, cultivable land, tractors, agricultural tools, etc, creating a virtual marketplace to benefit villagers.

to ensure that the RTCs provided to the farmers are up-to-date. It also allows printing of land records as and when required. All changes to the land records database are done on the computer itself, to ensure that data on the computer remain current with time.

The Bhoomi software also has the provision of scanning original change orders of the revenue inspectors (the persons authorised to pass orders for adding or removing markings in land records) and the notices served on interested parties. Both documents are scanned. This ensures that in the future the responsibility can be fixed on the revenue inspector by showing the original documents signed by him, and also ensures that the interested parties cannot claim in the court that they were not served with the notice before the mutation.

The software incorporates a state-of-the-art bio-logon metrics system from Compaq, which authenticates various users on the Bhoomi software on the basis of their fingerprint. This also adds an additional security aspect to the whole process.

The other useful aspect of Bhoomi is that it enables administrators to generate various reports on the types of soil, the number of landowners owning land above a certain average, type of crops grown in a taluka, etc. This information enables administrators to take informed decisions for policy-making.

The loopholes

But everything isn't quite rosy. Presently, steps in e-governance are based on the initiatives of certain government officers or state governments. The Central government is yet to talk of e-governance at the highest level. Worse, implementation suffers due to the lack of a unified body to monitor the whole process, and ensure that everyone is moving in the right direction. This is not surprising because seriously implementing e-governance calls for restructuring procedures as well as doing away with the existing system.

Again, even with computerisation in place, the success of e-governance still depends on people. True, you might not have to wait in a queue just to get a form, but the processing of the form still passes through the very same people who are in their present day seats. As Rajora says, "E-governance can be no replacement for good governance. For a successful e-governance project, technology plays only 15 per cent of the role, while management of the project plays 85 per cent of the role!" If management is in the hands of a few political, commercial and other elite groups, and they use this power to suit their purposes, e-governance will hardly benefit the common man.

Though there might be considerable enthusiasm at the individual level, driven by forward-looking individuals, things will not move in the right direction till the authorities take it upon themselves to implement it right.

Karnataka: India's Silicon Valley

The Karnataka government has been taking some steps in the e-governance direction. We present details of some of the initiatives.

Small Scale Industries

The state has computerised the permanent registration of over 2.5 lakh small-scale industries. All the districts as well as 26 taluka industry centres have been completely computerised.

Zero-piracy territory

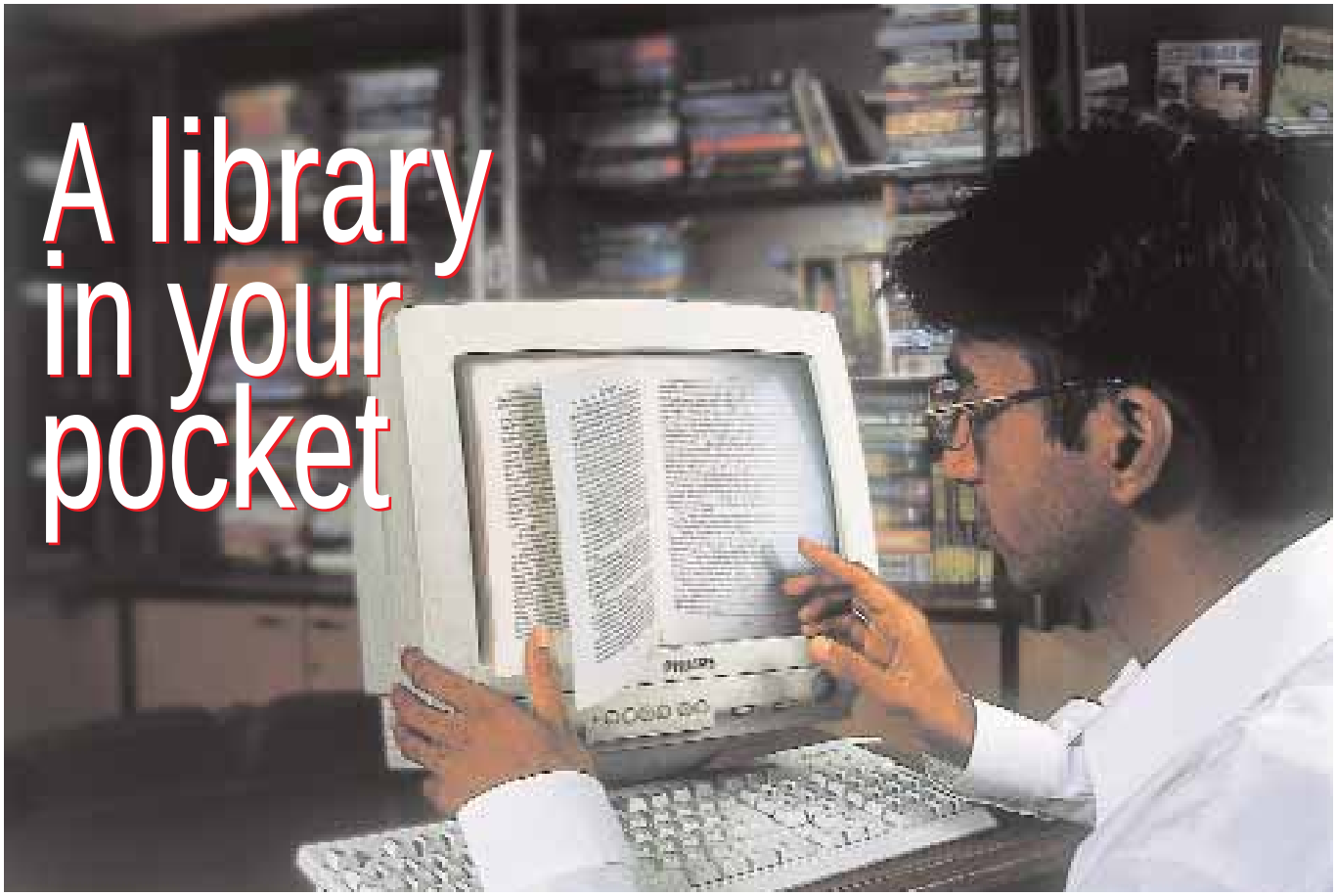
Karnataka has become the only state in the country and the first in the Asia-Pacific region to adopt a systematic approach to combat software piracy.

Police IT 2000

The police department is already computerised to a large extent and has an ambitious project to enhance the capabilities of the intelligence wing.

At present, computers are used in several departments and such initiatives are taken in a decentralised manner. The government also proposes to establish a Centre for E-governance under the Department of Information Technology. This is likely to further fuel the process of IT adoption in the governance of the state.

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NILESH KAKADE

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But in the conventional paper-and-ink world, this pleasure doesn't come easily. For one, you would have to be sufficiently recognised for a publisher to take you on. After all, why would someone invest money in your work if they weren't certain of a decent return through sales? And if you decide to publish your own work, you'd need enough dough to blow and well-placed contacts because distributors and retail outlets are normally reluctant to display the works of novices.

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A Question of Copyright

Writers all over the world look for inspiration from fellow writers and at times they do find a certain bit of information interesting and it very easily gets included in their own work. But nothing irks more than when someone tries to take the credit for your hard work and tries to pass it off as theirs! The Net is a place where such things go largely unnoticed, as it is near impossible to keep track of who is using your information and how they're using it.

Companies and other institutional bodies worry about copyright infringement due to content theft. It is but natural then, that they feel insecure about losing their content to hungry prowlers. So what's the remedy?

Enter Digital Rights Management (DRM). Similar to digital water marking technology that helps to identify your prized documents, DRM is basically a server-side software that helps to keep track of your information online. This technology makes it virtually impossible to steal information from Web pages. The software has multi-level administration rights and is useful for safeguarding your content. The software uses advanced encryption parameters such that it doesn't allow individuals to copy and paste documentations, or even photographs from Web pages. Aside from this, it lets visitors to the site view and print certain information only for a certain amount of time. To view the content, you have to download plugins. Once protected, images or text cannot be copied, saved, printed or screen captured.

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All you have to do now is log on to the Net and put up your precious work in the form of an eBook on any one of the sites that allow you to publish your own eBook for free.

While you can start off with creating an eBook in text format or Rich Text Format (the two formats that are by and large universally accepted), this won't add the much needed functionality and readability to your eBook.

eBooks make for engrossing reading only when you add interactive elements such as bookmarks (chapter divisions), hyperlinks, tags, etc, that allow for a smoother navigation and more functionality.

Are the gizmos ready for use?

Excited about the prospects presented by eBooks? Well, hold your horses—here comes the bad news. Owing to the fact that eBooks are a relatively new medium, entrepreneurs are seeking to cash in on it as a business opportunity.

Of late, the market has seen the entry of quite a few eBook readers and devices such as PDAs and handhelds.

However, an accompanying problem is the fact that some of these devices are dedicated devices, which means that they support any one particular format.

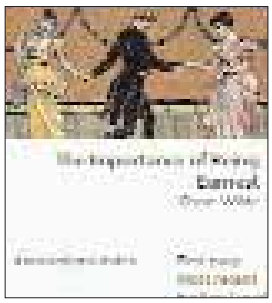
A handheld device, such as the Palm or the Pocket PC that can read multiple formats will therefore be preferred over these dedicated devices that read only one format.

A few other technical setbacks with handheld devices include a small viewing area and also problems with the display of text and graphical images, which are in low resolution and are pixelated. As a result, eyestrain is a major complaint that people have with eBook devices, or with reading eBooks

Creating your eBook

Once you've written your eBook, you then need to convert it to an e-format that can be read on the screen of your computer or handheld device.

Using MS Reader: When you download the MS Reader software and plugins (from **www.microsoft.com/reader**), an icon called 'Read' is installed on the main tool bar. Open the text in MS Word and choose the Read option from the File Menu to convert the document to MS Word format. Just follow the onscreen instructions to complete the process.



Your first eBook?

This converts your file into .lit format, which can be read on a handheld device such as the MS Book Reader. The software is very user friendly, and helps you to bookmark, change font or highlight from the options menu.

PDFs for your handheld: The best feature of Adobe's portable document format (PDF) is its cross-platform compatibility. Since Adobe PDF files can be viewed on all major computing platforms, users can read e-books on desktop computers and other devices, and also transfer e-books between devices such as the Palm, Windows CE or PocketPC. If you happen to have Adobe Acrobar 5.0, then creating PDFs is even simpler. Install Adobe Acrobat to your machine. Now, you can choose to print to the PDF Writer from the application you are typing your text it. Alternatively, if you are using Microsoft Word, then the task is even simpler.



Using the Adobe eBook Reader

Acrobat integrates seamlessly with Microsoft Word and places an icon on the toolbar to create PDFs. Open the document in Microsoft Word. Click the Create Adobe PDF button in the toolbar or choose File > Create Adobe PDF.

off a computer screen for that matter. However, Microsoft claims to have come up with a display technology that lends the look and feel of high resolution printing to onscreen reading.

Called Clear Type, this technology provides you with crisp and easy-to-read text on your screen, be it a laptop, PDA or any other specialised reader. Another prototype device being developed by a core group consisting of Toshiba, NTT Data and E-book Initiative, Japan, to address this problem consists of two vertically attached LCD panels with a high-resolution screen.

More than mere books

Technology isn't only about creating innovations, but about coming up with innovative solutions that help towards achieving the most important of goals—helping people. eBooks wouldn't be as big an achievement if those that are visually impaired couldn't also enjoy them.

Microsoft and Pulse Data International seem to have taken up the challenge by attempting to make Braille-ready eBook readers. The plan of action involves integrating the Microsoft Reader and Pulse Data's BrailleNote software, a family of screenless devices that translate text into speech and Braille.

A visually impaired individual could choose from downloading an e-book to be read on a Braille reader, or even listen to the speech version.

The National Institute of Standards and Technology (NIST) has developed a prototype that can translate text into Braille, and features variable speeds, allowing people to read faster or slower, or to pause the device. The reader can transform text into Braille and can also be used for reading e-mail, browsing the Web, and other text-based applications.

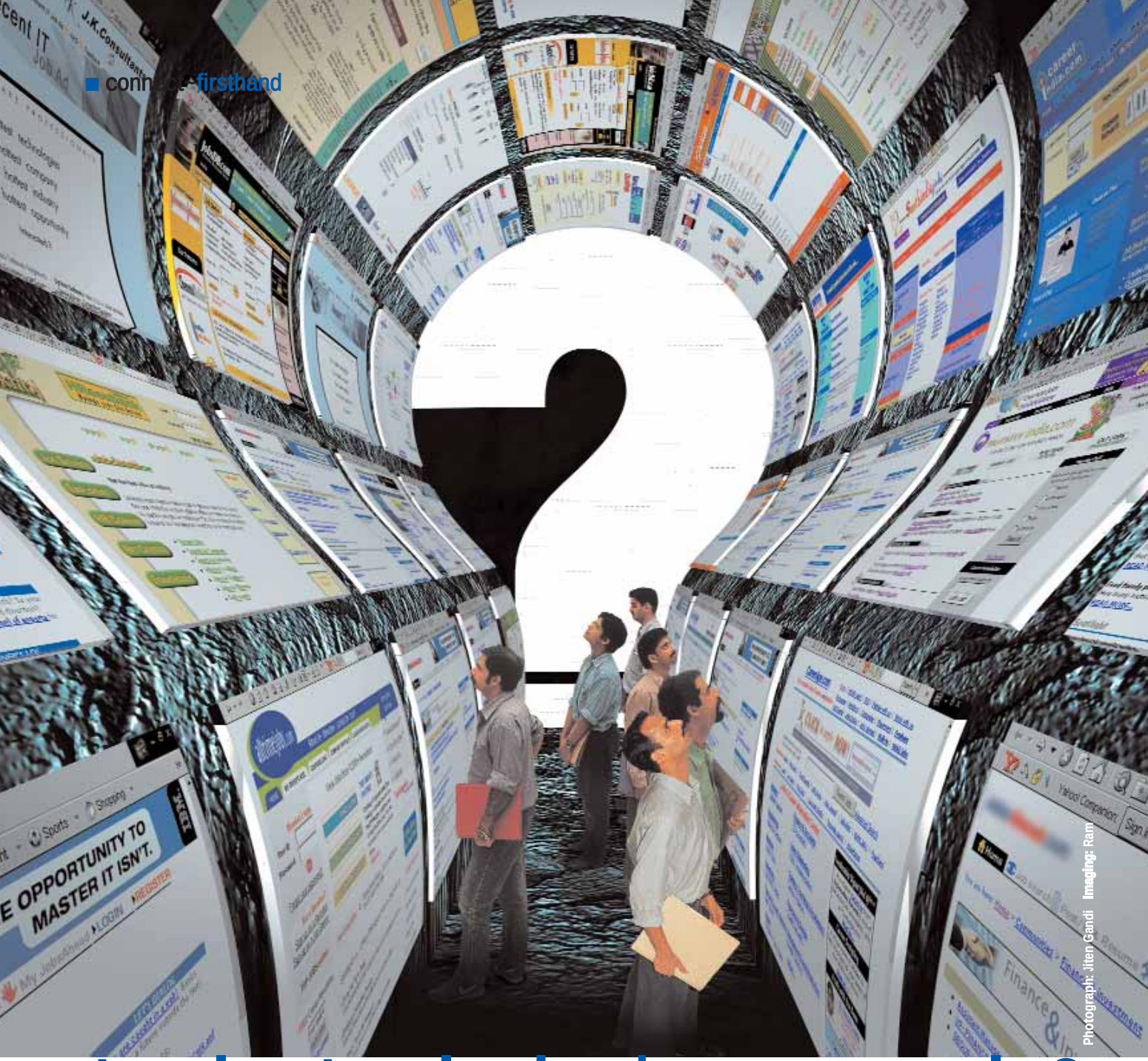
Flash in the pan?

Will e-books make it big in the future, or will they remain just a passing fad? It is too early to say. Since eBooks have emerged on the scene only recently, they are yet to catch up with the mainstream. As of now, the two major suppliers of e-books are Amazon and Barnes and Nobles, who provide you with access to eBooks at a price. While there are quite a few sites that allow you to download eBooks for free, there also exists the question of copyrights. But if you're looking to make your mark as a writer, then this is the perfect medium that should get you there. So what are you waiting for?)Logon and start e-publishing your magnum opus.

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Apply, Apply, is there a reply?

Searching for your dream job? Maybe posting your resume on the job sites will help

RINKI BANERJI

"Are you underworked and overpaid?" asks a banner, rather temptingly, at the top of a Web page I'm scrolling through. "Who is?" I ask myself rhetorically, as I click on it. Needless to say, it takes me to a job site.

Like 'true love', the concept of a 'perfect job' haunts us as we go about our dreary lives. It is waiting for us, just round the corner, we say to ourselves, but only if we read the signs right, and are ready to take the chance, and don't muck it up. "Why does it have to be so tough?" we sigh.

"It doesn't!" job sites reply. I am now beginning to understand the lure of these sites. "There is a perfect job waiting here for you," they seem to say, "just come and get it."

Whether you are looking for your first job, or your eleventh, it is difficult to be unaware of the existence of job sites. They leap out at you from Web banners and roadside hoardings, and someone you know knows someone who got the 'perfect job' through them. And of course, in today's hectic world, when you have little time to pore over the classifieds and recruitment columns in

Working with Some Jobsites@india

Alltimejobs.com
This site provides career resources, a listing of hot companies, counselling, articles, previews, etc. The distinctive feature of this site is the corporate online test that enables HR managers to use their recruitment tools and also get feedback from casual surfers who are not necessarily seeking employment. The total number of jobs offered by them is more than 2,500, in addition to links to recruiters.

Careerindia.com
Columns dealing with the work environment and how to cope with stress are the first thing that you notice here. In addition, there are tips for facing your interviews boldly and convincingly. Expert career talk, employee search and selecting talent are some of its most attractive features.

Careersindia.com
It's a different site than the one above, and has a career centre, an e-mail feature to alert you of the latest job openings, and features and articles. Unfortunately, for getting the search results for a job, you need to give a valid e-mail ID where you get the results.

Jobsahead.com
Search for a job here, and you also come to know of the number of people who have applied till date. There's a resume blaster service that links users to 500 consultants but you have to pay Rs 1,000 for it. Along with a huge database of vacancies all around India, they keep the users posted with career tips and provide various communities for discussion boards.

newspapers, they seem to be the easiest way to keep track of the job scene.

Stay ahead in the rat race

Why are people thronging online for career advancement? The answers are simple.

You expect there to be a variety and range of job choices available on the Net, which is enticing, whether you're looking to be based in India or abroad. The sites claim to be updated regularly, and send you daily updates and job offers in your inbox. While most of these sites are free, the paid ones would certainly seem to offer value for money. For instance, **Jobsahead.com** claims to send your resume to 500 reputed consultancies across the country, for a sum of Rs 1,000 (Rs 2 per agency).



Find the job for you at Jobsdb.com

Job sites also provide a lot of valuable information such as tips to polish up your resume, career counselling, online training and expert advice from people who've made successful careers. You also have access to up-to-the-minute market news and links to other relevant sites.

Consultancy services and recruitment agencies are a feasible option, but they lag behind job sites in several respects. They won't keep you updated daily. Some make you pay them to maintain your bio-data, but have a negligible success rate. If you happen to reject their first job proposal, some agencies never get back to you again. And think of all the time that you have to spend interacting with them. Job sites, on the other hand, are easy to access and they are open 24 hours a day, 365 days a year.

Get with the program

You can find a plethora of Indian job sites listed on **www.hydinternews.com**. Or simply search via any popular search engine like **Google.com**, **Altavista.com** or **Yahoo.com**. The most frequently used sites with exhaustive databases are **Careerindia.com**, **Jobsahead.com**, **Jobsdb.com**, **Jobstreet.com**, **Monsterindia.com** (Indian interface), **Naukri.com**, etc.

The usual way to go about things is to register and submit your resume to the site. If you wish, you can create a personalised page containing your resume for daily alerts matching your criteria. Or you can apply for vacancies online itself, on sites like **Naukri.com**, where companies put up live postings on their requirements. Listings of walk-in interviews are also available on some sites like **Jobsahead.com**.

Message/discussion boards are good places to share your views and ideas about job prospects and experiences at work with others. This section is visited by a lot of recruiters, so you can make use of it to blow your own trumpet with an attractive resume. Of course, if you don't want your current boss to stumble upon your resume, it is best to submit it to the site database, where it is kept in absolute confidentiality and your resume is sent only to companies that have openings that match the job profile you've asked for.

Once you're registered with a site, expect to see mailers and updates in your inbox with subjects such as, 'Congrats…you got a job!' or 'Urgent…here's a vacancy!'. As Sulekha Ranade, a Web designer working for a Web development company says, "I have registered with **Naukri.com** and **Jobsahead.com**. They supply daily newsletters with three job openings matching my criteria on an average." Of course, if you have your heart set on a very specific type of job, you would do well to keep a constant watch on the sites and browse daily for new openings.

A junior or middle level job is generally easier to find than a senior position. If you're planning a switch in mid-career, then the place to shop is **Timesjobsandcareers.com**, where you can opt for more than one field of work. If you want

Keep the Cat in the Bag

Secrecy is an important issue when it comes to submitting your resume on a job site. The last thing you want is your boss coming across it, and turning your dream of leaving the company into a reality too soon!

The best way to stay out of trouble is to add your resume to the database of the site, and subscribe to the newsletter to keep you updated about new vacancies. The databases are kept confidential and protected from intruders.

In case you wish to make your presence felt, you will find sections meant for employers on **naukri.com** where you can post your resume along with a brief description about yourself.

If you are a fresher, it makes sense that you not only apply for the newsletters and post your resume on the database, but also post it on the free display section for higher visibility.

Working with Some Jobsites@india

Jobsdb.com

It had 910 jobs on its list when we visited it. Apart from posting your resume and searching for jobs, you can look up some career resources such as preparing for interviews. As usual, you can search for jobs by keywords, date, etc, but what really stands out is the vast categorisation of jobs. Registration allows you to receive personalised alerts and market yourself to prospective employers. You can also scan through job offers in a few other countries.

Monsterindia.com

At the Indian counterpart of Monster.com (one of the biggest job sites in the world), you can set up your own e-mail account and search for jobs across a wide category. The regular sections on expert advice on preparing a resume, career advice, etc, are present, as also a list of favourite companies. One aspect you notice is that a job search reveals a detailed description of the job, along with company details and not just some basic information as on some sites.

Naukri.com

This is an extensive job portal, and also includes some job offers abroad. The site uses free resume managers to upload your resume and get free alerts and claims to have covered more than 11,000 companies. You can also avail of a column with free counseling advice. And one of the columns also gives a listing of various recruitment services. You can apply for daily newsletters on the site to get free updates about vacancies.

The Upside and the Downside

Top 10 reasons for registering at a job site

1. Comprehensive job listings for India and abroad
2. Daily mailers and updates for job offers
3. Space for salary negotiations
4. Message boards to share views and opinions with communities such as IT, management, finance, etc
5. Career counselling, tips to improve your interview skills, etc
6. Expert advice from people successful in their professions
7. Articles and analysis regarding various careers and job profiles
8. Links to latest happenings and news affecting the job market
9. Information about emerging career opportunities
10. Walk-in interview alerts

The shortfalls

1. Acknowledgements upon registration and responses to job queries are not always prompt
2. Very few non-IT jobs listed
3 Contact details are usually not given
4. E-mail updates may not be that up-to-date, as companies fail to alert the job site if the vacancy is filled through other means
5. The matchmaking process is not foolproof. You get alerts for jobs that don't match the criteria specified

to keep yourself posted about consultancy services and placement agencies, **Naukri.com** and **Jobsahead.com** have a listing with complete contact details.

Caution! Work in progress

But looking beyond the hype, are these sites actually getting the job done? While the going seems good, Indian job sites still have a long way to go before they can measure up to their international counterparts. The biggest problem with almost all the sites right now is the unavailability of non-IT jobs.

There are hardly any job postings or alerts related to, say, photography or media. Job openings abroad are also usually restricted to a few categories: IT, telecom, HR, finance, management and sales. Another bothersome aspect is that the newsletters informing you about the list of vacancies rarely provide the telephone number of the companies, and the recipients are forced to find it out for themselves.

"There's one frustrating thing about the newsletters. It is really difficult to get the contact details, as you are only given links to the sites," says Ranade. "And the worst part is, after all the rigmarole of sending your resumes through, you hardly ever get a response. In fact, some of my friends had to call the employers over the phone to fix an appointment," she adds.

Also, the e-mail updates may not be that up-to-date, as Rekha Banerjee found out. "After resigning from my company, I had availed of the free service by **jobsahead.com** with a dream job in mind." However, she happened to get into the company she wanted without help from jobsahead.com. "Just after I joined my dream company, I found an alert in my mail box about a vacancy in the same organisation." It turned out to be the vacancy that she had already filled!



I applied on behalf of my uncle for a non-IT senior management job…but it was a waste of money as the vacancy we were alerted about was partially IT-related

Ankush Garg
Quality Management, Forindia.com

Ankush Garg, working in quality management at forindia.com also had his patience tested by these sites. "My uncle wanted a non-IT senior level management job and I applied for him at the payment service with **jobsahead.com** and the free service with **naukri.com**. I received a response from **jobsahead.com** in 13-14 days... better than **naukri.com**, which still hasn't given me a single acknowledgement," says Garg.

"However, it was a waste of money, as the vacancy we were alerted about was for an electronics company and was partially IT-related," he adds. The matchmaking process still needs a bit of tweaking. The jobs offered may not meet the desired criteria, especially if you're looking for something non-IT or at a senior level.

The bottom line is that job sites are no manna from heaven. But if you get over that 'perfect job' mania, they have a lot to offer you. Maybe even a near-perfect job.

Tried hunting for a job through one of these sites? Write all about it to readersletters@jasubhai.com

THE PROMISED GOAL

Computer education in colleges. Is it any good?



MANU KHANNA

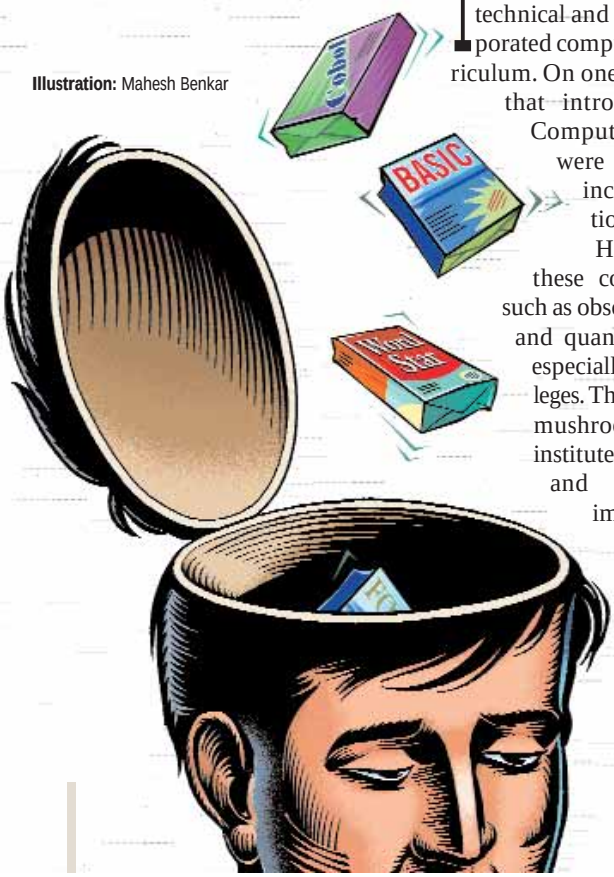


Illustration: Mahesh Benkar

India's climb to the peak of Information Technology began in the mid-1980s, when technical and non-technical colleges incorporated computers into their respective curriculum. On one hand were technical colleges that introduced four-year BE/BTech Computer Science and on the other, were non-technical colleges that included it as a subject in addition to Economics, English, etc. However, over time most of these colleges developed loopholes such as obsolete curriculum, poor quality and quantity of computers. This was especially true of non-technical colleges. The result—dissatisfied students, mushrooming of private computer institutes catering to a specific demand and charging exorbitantly for imparting knowledge that doesn't seem worth it on the surface level.

Old isn't gold!

The problems that ail the system of computer education in our country are numerous. Let's start off by taking a closer look at the curriculum or syllabus that is being adhered to by various colleges. In the name of computer software training, students are being taught out-dated languages and that too on out-dated machines.

Broods Naresh, a BE (Mech) student of Vasant Dada Patil College of Engineering, Mumbai, "We are taught BASIC, FORTRAN, etc which is of no use these days. Instead, we should be taught Java or anything else that is in demand today. In a way we are being forced to join computer institutes, like in schools where teachers expect children to come to them for private tuitions if they want to learn more."

Not only is the curriculum obsolete, it's incomplete as well. A BE degree in Computer Science tries to cram in a whole lot of things ranging from algorithms and circuitry to programming languages such as Pascal (apart from the usual BASIC in the first year). This tends to be a non-focussed approach, and only certain universities have the option of different electives and that too in the final year. So, more often than not, you end up learning things that you may not at all be interested in. And while your counterparts in the US may be learning about the latest technology being used by the Intels and the AMDs, here in India, students are being made to do with 8085, 8086 and very rarely, a 486.

Now circuit design is hardly a subject you would find covered by private training institutes, and so you end up neither here nor there, and more often than not, take the usual path of joining a computer institute and learning about other programming languages.

Give me more!

Computers, like Mathematics, is all about practise. The more you practise, the better you become. Theoretical knowledge is important, but without practical knowledge, it amounts to nothing. This is exactly what is happening in most colleges.

Says Kanchan, a student of a New Bombay based engineering college, "For almost one full semester, our computer science teacher made us memorise complex Unix commands, but we

➜

never got a chance to actually practise them. It was only towards the end of the semester, 15 days prior to the exam, when we actually saw what each command did."

Rohit Sharma, a marketing executive based in Punjab, faced a similar problem. Says Rohit "During my BA (1996) First Year, as a student of one of the best colleges of Chandigarh, I had computer science as a subject. In the once-a-week practical class, of one-hour duration, four students used to share one computer, which came out to a paltry 15 minutes per student per week!"

One might say that this used to happen five years ago, which is a long time; things must have changed by now. Sure, they should have! Comments Rohit, "They have but not to the extent they should have. My brother Mohit, who's a student of the same college, tells me that now instead of four, two students share a computer. This also isn't sufficient. They should at least allocate one PC to each student."

The great divide

In complete contrast to colleges, the system at the PG level is more comprehensive and up-to-date than the one at the graduate level. Compares Aashish Sharma, an MCA degree holder from Punjab University, Chandigarh "In BCom final year, I chose Computers as an additional subject, which involved study of bare basic topics like computer fundamentals. In contrast, MCA was a totally different experience. I had subjects like Oracle, VB, etc. What I did in BCom was a joke."



In BCom final year, I had Computers as an additional subject, What I studied then was a joke. In MCA, I had subjects like Oracle, VB, etc.

Aashish Sharma
Programmer, HCL, Delhi

The difference between graduate and postgraduate education exists not only in terms of the curriculum, but also in terms of the infrastructure. Says Sajitha Verma, a former Novell engineer, "I did my MSc during 1988-90. Even in those days we had an excellent computer lab which had the latest equipment. Also, our syllabus used to get revised each semester."

Such differences have always existed as postgraduate level courses are given more preference. But in the case of computer education, it is important that the gap be shortened by as much as possible. This is because a student, who studied BASIC and PASCAL in college, is suddenly expected to master Oracle and Visual Basic. The student is suddenly subjected to pressures of not only understanding whatever is taught but also to score good marks in examinations that will eventually help him get a decent job.

Who's responsible?

In India, the All India Council for Technical Education (AICTE) plays a major role in planning and co-ordinated development of the technical education system throughout the country. The syllabus and curriculum is decided by the management or the university of which the college is a part, but AICTE is the governing body which after careful inspection accredits college/university to start computer and other technical courses. Not only does it grant permission, it also helps the local institutions that are accredited to it in formulating new rules and regulations from time to time.

When a college or university sends a request to AICTE for approval, it is forwarded to the National Body for Accreditation (NBA). It was constituted by the AICTE as an Autonomous Body, under Section 10(u) of the AICTE Act, 1987. NBA conducts evaluation of technical institutions or programs on the basis of guidelines, norms and standards specified by AICTE.

Says Dr I.K. Bhatt, Advisor, AICTE, "These guidelines help to serve a purpose as they help to maintain a uniform syllabus. They are under constant scrutiny and it helps to monitor the system effectively."

However, the problem with a centralised university structure with no autonomous colleges is that changing of syllabus to keep up with the changing trend is a long-drawn process. This can easily take up to five years, in which time the technology may have leap-frogged, so that the gap still remains. So, many a time it is left to individual colleges to circumvent the University process and introduce courses and new subjects on their own, even though the same may not have any bearing on the examinations.

Given such a state, there're very few options that a student has. An enterprising student might decided to take the initiative and probably engage himself in project work with industries even while completing the course. At the same time, keeping abreast of the latest through books and the Internet is another viable option.

The true identity of some of the people mentioned in this story has been withheld on request.

Learning computers in a college?
Write all about it to readersletters@jasubhai.com

Keeping Tabs

Dr Manju Singh and Dr R.P. Singh, deputy directors of AICTE, talk about the role of AICTE

How does AICTE ensure that colleges provide up-to-the-mark computer education?

The National Board of Accreditation (NBA) has started evaluating the quality of education in the AICTE-accredited institutions. The accreditation grades are three-tiered. 'A' grade signifies that the quality of the program is at par with any other country. 'B' signifies that though the institution satisfies all the norms, some weaknesses still exist which can be rectified in a short period (2-3 months). Grade C signifies that the institution may be satisfying basic norms, but a few things are lacking, which can be rectified in a few years.

What are the minimum requirements for colleges wanting to offer computer-related courses?

AICTE has specified different norms for different levels of institutions. Basically, these include a furnished building, all machinery and equipment and qualified director and faculty to student ratio of 1:15.

How does AICTE check to see whether guidelines are being followed?

AICTE monitors the college yearly for the first four-five years, or till the first two batches graduate. The college has to then get itself graded by the NBA. If the NBA reports that regulations are not being met, an inquiry committee is instituted. Based on its report, various punitive actions are taken.

Clean me Now!

I'm your hard disk, and I'm here with a simple yet important message. Listen up buddy, because I'll only say this once,



Photograph: Rahul Sharma

ALISAGAR PARDAWALA

I am the hard disk, one of the most hardworking components of your PC, keeper of the operating system, hardware and software drivers and games, providing you with whatever you need, whenever you ask for it. But lately my performance has dropped considerably, and I know you've been wondering what on earth is wrong. Well, let me tell you the reason for my errant behaviour.

When I was new, all the data I stored was in one place, so I could serve it up quickly when you asked for it. But as time passed and more and more data accumulated, I saved new programs on different clusters, which are quite far away from each other. So when you ask for the same data now, it takes me more time to furnish it.

Also, all the software you keep loading and deleting makes me a very messy place. There's data scattered all over, and it could be hiding viruses that can crash your system and make life difficult for you in front of the beige (unless you have a Mac) box. So, time for a spot of cleaning.

Do it the right way

I've seen that panicky look on your face every time you read the message that your disk has run out of space. But please don't rush to use some free system utility you got on the Net. There are many inadequately tested products floating around that have been developed by non-professionals.

They blindly delete folders from the system that might contain vital data, so you get your 100 MB of free space at the cost of data being lost. This is not the best way to clean me! I would prefer if you installed a cleaning tool like Norton CleanSweep, which can be run once in two-three days to free up space.

These programs are safe to use since they offer you complete control, letting you decide what to keep and what to delete.

I need a minimum 100 MB of free space at all times, irrespective of my size. It would be best if you get into the habit of deleting unnecessary files and folders from the system on a weekly basis.

Some files that I could usually do without are temporary Internet files, cookies and folders and files in the Temp folder that you have no more use for.

Better safe than sorry

While you're on a cleaning spree, you will invariably come across some files with strange names that will stump you. To delete, or not to delete, that is the question. It's possible that these files are vital for the running of some program, operating system or hardware drivers, and removing them might lead to the program malfunctioning or even crashing. The safe way out is to make a backup of the files on a floppy or Zip diskette before deleting them.

Once you're done, restart the computer and check if all the programs are working like they were earlier. If everything is running fine, the files were obviously useless. If any application creates problems, you will see an error message telling you which file is missing. Just reload that particular file.

Do remember that whenever you press the Delete button, you are not really eliminating that

Cleaning Tools Available

System Tools (in Windows)
Disk Defragmenter
ScanDisk
System Utilities (freeware and shareware)
Disk Optimiser
CleanDisk Pro
Space Odyssey
TidyDisk
ReprMan
Dedicated Utilities
Norton SystemWorks
McAfee
OnTrack System Suite

PS: Remember the Address Book

One sure-shot method to speed things up on your PC is to format the hard disk. But this is something you shouldn't do more than once in six months. And if you aren't sure about it, please take help, or better still, leave well enough alone, because if anything goes wrong you will end up losing all data. And that means everything will have to be installed again.

So the best way to proceed is with caution—take a backup of everything. You can do this on a second partition that you won't reformat. A safer bet is to use removable media. Back up important files, folders and other vital data. And don't forget the data in the address book, either Outlook Express or Microsoft Outlook, because it's a tedious job to rewrite all those addresses and e-mail IDs.

To do this in Outlook Express, go to Windows Explorer > Windows > Application Data > Microsoft > Address Book. Copy this Address Book folder completely on your backup media. For Microsoft Outlook, from the main menu open File Import/Export. The wizard will open for importing and exporting files and folders. In this Window, look for the personal folder file (it has a .pst extension) and save it.

Health Tips for your Hard Disk

Do you...

- Empty the Recycle Bin on a regular basis?
- Scan your hard disk after an improper shutdown?
- Always shut down your computer from the Start menu and not by shutting off the power?
- Not open and work with an excessively large number of applications simultaneously?
- Always logically organise your files? If need be, store all your documents on a separate partition so as to facilitate easier backups. Otherwise, at least keep them in a separate directory.
- Avoid storing files and documents in the root directory of your hard disk?
- Preferably, activate the setting 'Do not show hidden/system files' to avoid accidentally erasing crucial files?

file from your system, but just putting it in the Recycle Bin. This gives you a chance to restore a file that has been deleted by mistake. It's important to regularly empty the recycle bin because it eats up disk space.

Help me fight baddies

I am made up of a combination of electro-mechanical components that are precisely fabricated and assembled in one casing. Since so many components are involved, I am prone to physical damage if not handled with care. The most common manifestation of this is a bad sector, which is a sector that gets jarred and damaged.

This can occur due to many reasons, like a scratch on the platters that store information, contamination or demagnetisation.

The remedy for bad sectors is a useful little program called ScanDisk, which scans the disk surface for errors and fixes them. This utility comes with the Windows operating system. You can access it from Accessories > System Tools. The 'Through' test allows ScanDisk to scan the surface of the disk, find and repair errors, and to mark unusable damaged areas.

Once this is done, the area is quarantined so it does not cause a problem in the future. All you need is to be patient and wait till ScanDisk completes the test. Remember to close all programs, especially the screen saver, which interferes with and delays the entire process.

Get a load off me

Besides removing bad sectors, there are other ways you can optimise my performance. One nifty way is to reduce the size of your swap file, popularly known as virtual memory. In the Windows environment, swapping enables a computer to manipulate programs and data files larger than the main memory. The swap file size could be kept around 300 MB if you are using 64 MB of RAM. This is not a hard and fast rule, though—it finally depends on the type of applications you use.

If the applications are graphics-intensive like PhotoShop or any other 3D-rendering software, where the file size is bigger and the memory subsystem is strained the most, the best way to determine the swap file size is to use the system monitor, which shows the swap usage. To do this, go to Control Panel > Add/Remove program > Windows Setup > System Tools. Click on Details.

This will show you the various system tools. Here, check the box beside System Monitor. Keep the Monitor running while you work at your computer.

At the end of the day, go to the System Monitor and check the 'maximum swap file usage' and decide the swap file size accordingly.

If you're confused about the settings, just choose the 'Let the windows decide my virtual memory' option and Windows will do the needful for you.

A click in time saves nine

One thing I can't understand is why people don't keep their files in a more organised fashion. Most of the time they don't even keep track of where they're saving a document, because they know the four files last opened will be displayed when they next switch on the PC. Do you do this too, and later get into trouble, wasting hours looking for a single misplaced file whose name you've forgotten? Avoid this problem by creating separate folders for different categories and saving all related files accordingly. It only takes a couple of clicks—not like you have to punch holes in reams of paper or arrange stacks of files alphabetically.

Another thing that would go a long way in keeping me fit is switching off the computer the correct way. Improper shutting down or power failure can lead to the FAT table getting damaged, clusters getting lost or orphaned and files getting cross-linked.

Files being used at that time may be lost. On the other hand, shutting your PC from the Start menu allows all the files to close, unwanted files to be deleted, and important files such as system registry files to be copied to the FAT table.

Just see the difference once you've cleaned and optimised me. I'll make the system fly, and applications will open in a flash. So if you don't want to face a hard time when its crunch time, start keeping me in good shape. And that's an order!

Photograph: Rahul Sharma, **Imaging:** Ram



Get them talking

Get the two loves of your life, your desktop PC and Pocket PC device, up-close and personal!

ANIL PATRICK R.

"Oh boy! Oh boy! I finally managed to get my hands on that Pocket PC I've always wanted. Now how on earth do I get it to work in step with my desktop? I think I'll have to enter my entire address book. Oh god, help me!"

If this is what was running through your mind after you just became the proud owner of your very own Pocket PC device, then we suggest you play it cool and take things easy. Getting your Pocket PC device ready for action is no big deal.

You can synchronize your Pocket PC device with your desktop PC so that it constantly updates itself with the data in your computer. This allows you to use your Pocket PC device as an extension to your computer with the same data in both.

The Pocket PC OS comes with all the goodies you need, such as Web browsers, e-mail, audio and video media players, and so on. All you need to figure out is what you want to do on it and leave the rest to your Pocket PC to do it for you. So let's get a jumpstart on how you can use the Pocket PC.

The first strides

To start with, in addition to your handheld, you would need an ActiveSync installation CD, and Outlook 2000. You can also download the software from the developer's site or other download sites, but it is better if you have the original CD as it also includes other useful utilities such as AvantGo, IE 5, Windows Media Manager, Microsoft Money and Microsoft Reader.

There's also TScribe, which provides a virtual keyboard and stylised handwriting input called Character Recognizer, which allows you to input data in your own handwriting.

Most Pocket PC devices come with a USB port as standard, so you wouldn't have any problems with setting speeds on a serial port. ➜

A Syncing Feeling?

How do you connect your Pocket PC device to your desktop so that you have the same data in both? That's where synchronization (or syncing) helps you out. It's not as complex as it sounds.

Connect your Pocket PC device to your PC using the cradle. The cradle comes with a serial or USB port in most cases. Just plug in the connector of the cradle to your PC's serial or USB port and you are ready to start syncing.

It's okay if you don't happen to have a cradle for syncing. Just connect your Pocket PC device to your PC which has ActiveSync installed, using a serial or USB connector. ActiveSync automatically detects the type of connection. It is also possible to sync using the IR port of your Pocket PC device and the one on your laptop. Sometimes syncing can be a real pain but in the case of the Pocket PC, it's a very smooth process, using ActiveSync. ActiveSync lets you synchronize almost everything on your PC with the Pocket PC device.

Syncing is also used for other purposes such as installing applications, transferring files, surfing the Net on your handheld via the connection to your PC, or using a wireless modem.

Find it on digit interactive

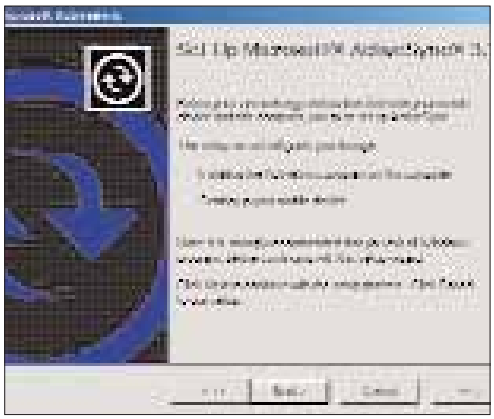
Software

Microsoft Reader, Adobe eBook Reader, check out **Mindware**

Just make sure that your PC also has a USB port, though. Refer to the manual to find out if you have a serial or a USB port. Microsoft recommends Outlook 2000, though it isn't a necessary criterion if you want to use your Pocket PC.

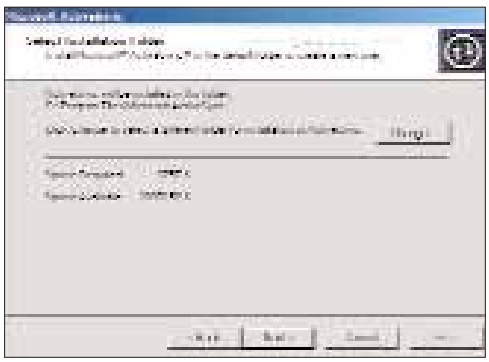
Now that you have all the tools with you, lets get on with installing ActiveSync on your PC.

Step 1: To start the installation, double-click on the installation file in the CD or on the one that you've downloaded.



Starting the installation

Step 2: Click on Next. Click on Change to select the drive and folder in which you want ActiveSync to be set up, then click on Next.



Customising your setup

Step 3: Now is the time to go live. Connect your



Towards connectivity



Windows 2000 will auto-detect your handheld

Pocket PC's cradle, with the Pocket PC on it, to the PC's USB/Serial port and click Next.

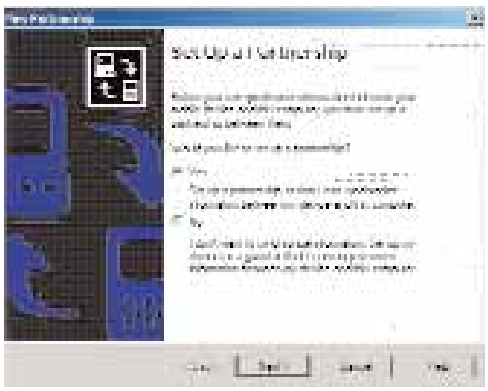
Once your PC has detected your Pocket PC device, you are all set.

In case your Pocket PC is not detected, there's no need to worry. We encountered the same problem while working in Windows 98. Restarting your computer should help it detect the Pocket PC. Installing ActiveSync on Windows 2000, however, was as easy as a song. The system detected the device the moment it was connected, without any restarts.

Towards partnership

Now that ActiveSync has been installed on your machine, let's get down to introducing and transferring data from your first love to your latest crush. It's time both your PC and Pocket PC got personal!

Click on ActiveSync. This will bring up the 'Set up a Partnership' screen. Click on the Yes button to synchronise all the data on your Pocket PC and your desktop computer. The No button is used in case you are using someone else's



First steps towards partnership

computer and don't want to synchronise your data, but only want to do a manual transfer.

Follow the prompts, up to the very last step, to set up your first partnership and click on Finish to complete the process. Now ActiveSync automatically synchronises data between your PC and Pocket PC. It automatically

synchronises the data in your calendar, contacts, favorites, and tasks.

One thing you must refrain from doing is using the Pocket PC device until synchronization is complete. It is also possible to add more applications to be synchronised automatically when you connect your handheld to your PC.

Synchronization takes place on a continuous basis, but you also have the option for manual syncing. Synchronization will ensure that all your PIM information and other applications get synchronised constantly.

You can also set up more than one partnership. Suppose you use a PC at home and a laptop in the office, setting up multiple relationships will help you keep your Pocket PC device up-to-date with both.

However, it is not recommended to set up multiple partnerships until you have first mastered the art of using just one. After that you can set up as many multiple partnerships as you wish.

You've got mail

Your Pocket PC device also allows you to send and receive e-mail using the Inbox feature. Inbox synchronises with your PC and keeps the e-mail updated with those in your Pocket PC. It is very easy to add Inbox to your synchronization settings. Go to Tools > Options > Sync Options in your PC's ActiveSync and check Inbox. That should get your Inbox up and running.

You can write and store e-mail in your Pocket PC by launching Inbox from the Start menu. Click on New to get to the mail editor and compose your mail.

Use the Contacts button to select the name of the recipient from your address book. The next time you connect to your desktop PC, the mail will be sent automatically while syncing. It is the same with receiving e-mail. During synchronization, all the mail will be downloaded to your Pocket PC and you can read them on your own time.

There's a slight catch though. You can sync e-mail only from one PC, unlike other types of data such as appointments, files, etc. Multiple partnerships, therefore, would get you no where when it comes to using e-mail with Inbox. Another thing you have to keep in mind is the length of e-mail messages you want to receive. The default setting allows for 100 lines per e-mail.

If you want to see longer messages, you can set a maximum of 500 lines in Sync Settings in the Settings option. Remember to select the Include File Attachments options if you want to receive all your attachments.

On the Web and off it

Besides sending and receiving e-mail, you can also view offline Web pages on your Pocket PC device, using AvantGo, an offline browser integrated in the Microsoft Pocket Internet Explorer. When surfing the Net on your handheld while it is connected to your computer, AvantGo.com caches these Web pages after down sampling the complexity of the Web pages, and transfers them to the device via your desktop PC the next time you synchronise.

You can specify the Web pages and browse through them offline. So make sure you include AvantGo in your Synchronization Settings, to make use of this feature.

Installing new goodies

Installing new software on your Pocket PC device is no big deal, provided you ensure that the file you are about to install is the right version for the Pocket PCs processor. Casio and Compaq make use of the MIPS type of processors whereas HP makes use of the SH3 type.

Check your device's manual if you're not sure of the processor type. Make sure that the program is the right one for your device if you don't want to get 'Wrong Device Type' messages. The next thing to do is to ensure that you have enough disk space and that you are connected to your PC.

Use ActiveSync to install the program from your PC. Click on ActiveSync on your Pocket PC device, run the installation file on your PC and set it up. The program will be automatically installed on your Pocket PC device. You can then run it using the program icon.

You can also copy compressed files with the .cab extension into the Pocket PC device using ActiveSync. Go to File Explorer in your Pocket PC and browse to the folder containing the particular file, click on it and set it up as per the instructions.

It is also possible to copy software in the form of .exe files directly to your Pocket PC device using ActiveSync. These files can be run directly without any installation.

The place where Microsoft's Pocket PC operating system really shines is with respect to multimedia. A decent resolution screen and better colour reproduction than most of the Palm devices around makes it great to display high resolution images.

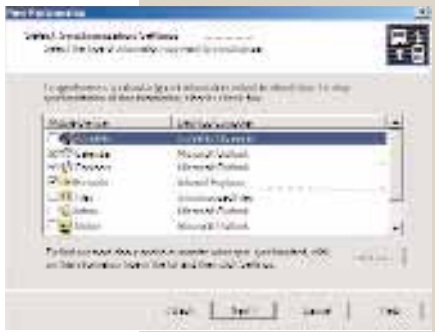
You can also playback MP3 music and watch short movies and streaming video. Microsoft has recently released Windows Media Player 7.1 for the Pocket PC device, which you might want to download and install.

Looks like you're now all set to have some serious fun with your little handy man. So here's to a fruitful relationship with your new Pocket PC device!

Always in sync

In the default synchronization settings, you can add more applications to be synchronized. Open ActiveSync in your PC. Select Options and then Tools. This brings up the synchronization box as shown in the image. Set as default the applications you want synchronized, and click Next. There you go! Next time you connect your Pocket PC to your computer, the application you selected will also be synchronised.

The default synchronization settings ensure that your Pocket PC device and your desktop sync on a continuous basis. It is possible to change the synchronizing interval. Go to Tools in ActiveSync, select Options and then Sync Mode. You will come across three options—On Connection, Manually, and Continuously. Selecting On Connection ensures that synchronization takes place only when the device is initially connected during a session. Choosing the Manually option ensures that synchronisation takes place only when you so desire. Continuously is the default option. Select the option you need.



Find it on digit interactive

Troubleshooting

FAQs on graphics cards check out **Mindware**

Troubleshooting

Problems with boot up in Windows 95, error when viewing TV through a PC-TV card, invalid page fault in IE 5, removing additional Startup entries…solutions to these and other problems

Linux

+ The X Drivers

I have a P-III, on an Intel 810 chipset. I tried installing Linux (Red Hat 6.2), but am not able to configure my monitor, because of which I am not able to run my X, both KDE and Gnome. Please solve my problem.

Dipin Gaba

Via e-mail

Rx The problem is due to the graphics card and not the monitor. Linux, by default, does not support the Intel 810 motherboard's internal graphics card. However, once the right drivers are installed, the problem will be solved. Visit the following link to install the latest drivers:

http://support.intel.com/support/graphics/intel810/

Alternately, you can also configure the Intel 810 graphics controller in Linux, if you have the AGP GART module in your kernel. This is required, as there is no dedicated video memory on an Intel 810 card.

Download the latest kernel from www.redhat.com/errata; this will include the AGP GART module. Next, run the following command in the terminal,

ls /lib/modules/`uname -r`/misc/agpgart.o

You can now configure X by running Xconfigurator. Select the i810 video card. Select the correct monitor or use Custom to specify the monitor's settings. Select 4096 as the amount of video RAM when asked. Also make sure that Linux has detected the correct amount of system RAM. You can verify this by using any of the following commands:

```
# cat /proc/meminfo
# top
```

If the RAM is lesser than the actual RAM in your system, then you may need to edit the /etc/lilo.conf to allow Linux to recognise the exact RAM in your system. Open /etc/lilo.conf in one of the text editors, and add the line, append="mem=127M", to the bottom of the image section, assuming you actually have 128 MB of RAM, which the system has not detected. Note

```
boot=/dev/hda
map=/boot/map
install=/boot/boot.b
prompt
timeout=50
message=/boot/message
linear
default=linux

image=/boot/vmlinuz-2.2.16-22
        label=linux
        read-only
        root=/dev/hda1
        append="mem=127M"
~
~
~
~
-- INSERT --
```

Editing lilo to get the exact amount of RAM recognised

that 1 MB of RAM should be subtracted from the actual amount of RAM that you have. After editing the lilo.conf file, run the command, /sbin/lilo. This will now enable lilo to detect the RAM in your system.

Internet & Communications

+ Deleting unwanted URLs

How can I selectively clear URLs from my IE's address drop-down list?

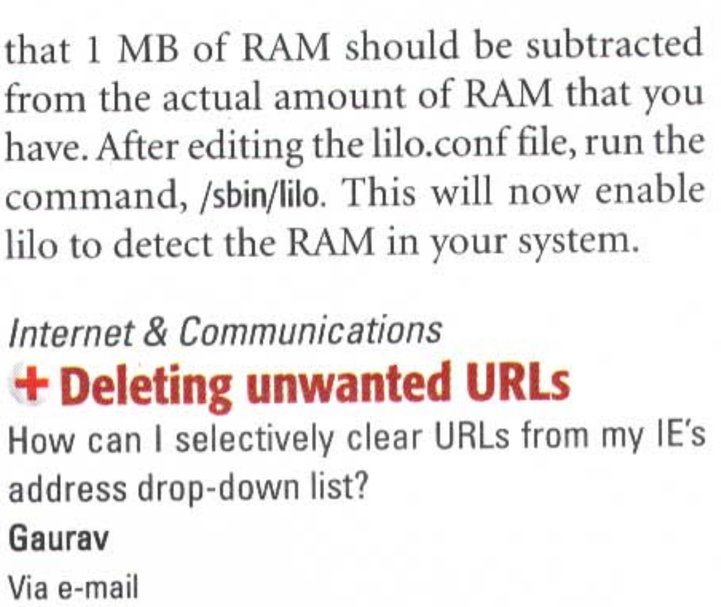
Gaurav

Via e-mail

Rx To selectively clear URLs, you can either edit the registry, or use software that allows you to do so. Remember to back up your registry before editing it. Here's what you should do:

Make sure that your IE is not running. Then go to Start > Run. Type regedit and click OK. Navigate to HKEY_CURRENT_USER\Software\Microsoft\Internet Explorer\Typed URLs\.

The URLs will be visible in the drop-down list. Just select the ones that you do not need and delete them. Exit the registry and restart Windows. The URLs will no longer be visible in the drop-down list.



Selectively removing URLs from IE's drop-down list

Windows

+ No safe mode

I cannot start my PC in Safe mode. Whenever I choose Safe mode from the Windows boot menu, I get the following message: 'error:HIMEM SYS has detected unreliable XMS memory address <some_address> XMS driver not installed.'

Prashant Shetty

Via e-mail

Rx The error is usually caused by a fault in the computer's external cache controller or by bad or mismatched memory chips. You should try the following:

Disable external cache, which is also known as secondary cache or CPU cache in BIOS. Check whether the RAM modules in the system fit properly in the slots. Make sure that the RAM type and speed are compatible.

Internet & Communications

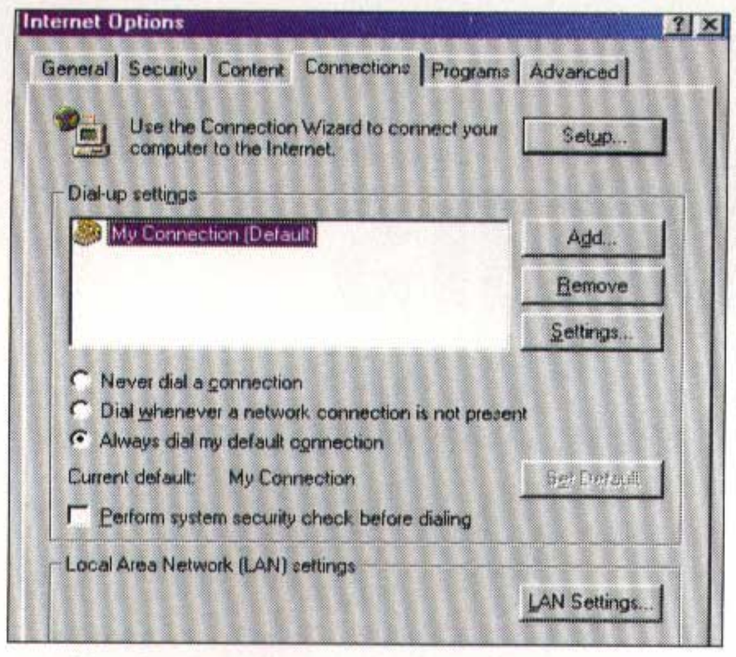
+ Cannot connect automatically

I recently reinstalled Windows 98 SE on my computer. Now in my Dial-up Networking I don't find the option to Connect Automatically. I use IE 5.5. Please advice.

Sarshad

Via e-mail

Rx The Connect Automatically option does not come in Dial-up Networking, but is a feature of the Internet Explorer →



Configuring IE for an automatic Internet connection

Connection Manager. To enable it, do the following: open Internet Explorer. Go to **Tools > Internet Options > Connections.**

Now choose your dial-up connection from the list. If there are more than one, click on Set Default. Next, click on 'Always dial my default connection'.

Double-clicking the Internet Explorer icon should now give you the Internet Explorer Dialer, which has both the options, Save password and Connect Automatically.

Windows

+ Hard disk locked to defrag

I get an error message, 'Hard disk is locked by a hard disk utility, please exit before defrag' and then Defragmenter doesn't start. However, I don't have any such disk utilities on my machine. I have checked the BIOS as well. What's the problem?

Swastik Rath

Via e-mail

Rx Disk Defragmenter shows different messages when there are applications running in the background, or when the data that is being moved by defrag, is being modified. This is usually caused by TSRs (Terminal Stay Resident) on the system. Just press [Ctrl] + [Alt] + [Del] and check what programs are running on the system. Shut these programs one by one, except Explorer and Systray. This should solve the problem. Running Defragmenter in Safe mode should also solve the problem.

Windows

+ Annoying error!

Whenever I open my Control Panel, I get a fatal exception error in some VXD IFSMGR. Everything seems to be fine, and there are no problems as such. But the error is very annoying. Please help me get rid of this message.

Muralidhar

Via e-mail

Rx The error is usually seen if you have a scanner installed and the file Vhpscand.vxd, which should be present in the C:\Windows\System\Iosubsys folder, is located in the C:\Windows\System\folder instead.

To fix this problem, use the Windows 'Find' utility to search for the Vhpscand.vxd file and then cut and paste it in the C:\Windows\System\Iosubsys folder.

Windows

+ Cannot access new folder

I usually need to work a lot with a particular folder, so I created a folder inside the SendTo folder. But I am unable to transfer my data to this newly created folder. Please help me make use of this folder and transfer my data.

Suhaib

Via e-mail

Rx Items inside the SendTo folder are actually shortcuts to the original files/folders. A folder directly created inside the SendTo folder will not allow you to right-click a document, and send it to this folder. This is what you could do. Create a folder in C:\, say, 'Quick'. Now, right-click this folder and create a shortcut. Cut the created shortcut to this folder and paste it in C:\Windows\Sendto folder. You can rename it to 'Quick' if you want. That's it. This should allow you to right-click and send any file to C:\Quick folder.

Internet & Communications

+ Port already open

Sometimes when I start my computer and try to connect to the Internet through my modem, I get the message 'Port is already open'. Why?

Joel

Via e-mail

Rx This error occurs if the application Rnapp.exe happens to be in the memory. To fix the problem, do the following: Use the key combination [Ctrl] + [Alt] + [Del] to bring up the Close Program dialog box. Click on Rnapp.exe and click on End Task. This should solve the problem.

Windows

+ Office crash

After I installed MS Office 2000, I get this error in Windows 'Explorer caused an exception 6d007fH in module WEBCHECK.DLL'. It comes up on its own even when there is nothing happening or being done on the system. I have switched off Active Desktop. What could be the reason for this error?

Rajiv

Via e-mail

Rx This occurs because the webcheck.dll file in the system is not the same version that is included with Internet Explorer 5. You will have to reinstall IE5. This will get the correct version of the webcheck.dll file and fix the problem.

Applications

+ Improper registration for Microsoft Access

I had earlier installed MS Office 2000, which I removed later and installed Office97 Professional. However, if I try to open Microsoft →

Applications

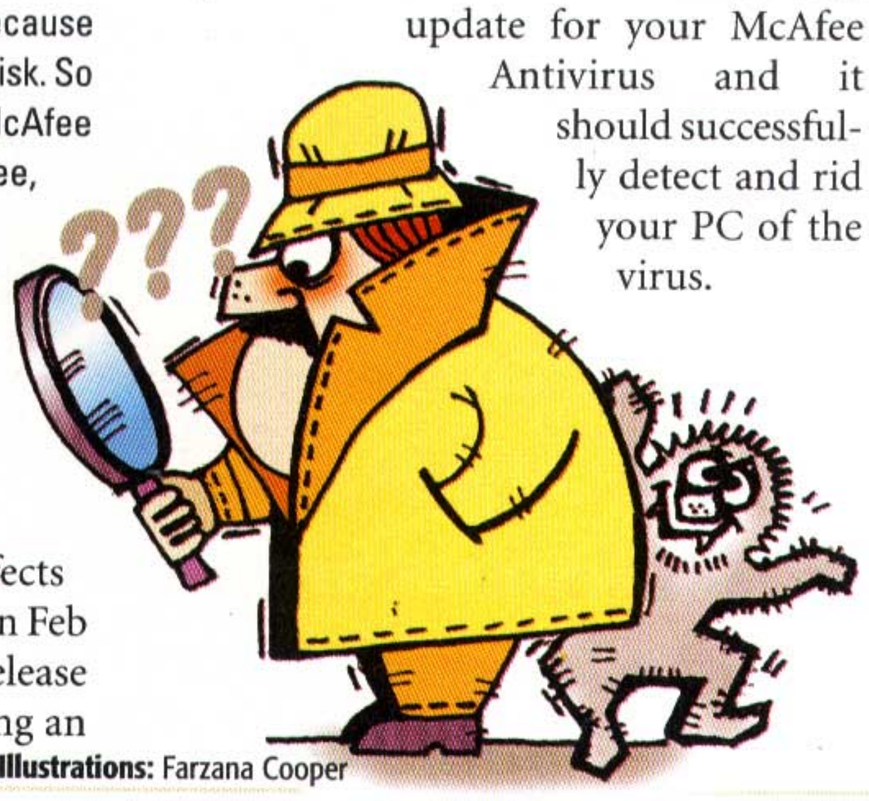
+ Who's at fault?

While scanning my system using Quick Heal, I was warned of a variant of virus X97M.Jerk.B. However, Quick Heal failed to clean it because of some problems with the emergency disk. So I tried to get rid of the problem using McAfee virus scan. But to my surprise, McAfee, which was a newer virus scanner than my version of Quick Heal, could not detect any virus. Please tell me who is telling the truth!

Rupal

Via e-mail

Rx This particular virus, which affects MS Excel files, was discovered only in Feb 99, with a corresponding .dat file release only in April. Hence, if you are using an older version of McAfee, it will not detect the virus. To detect the virus, you need at least McAfee version 4.0.25, with this updated .dat file. Get the latest .dat update for your McAfee Antivirus and it should successfully detect and rid your PC of the virus.



Illustrations: Farzana Cooper

Access, the following message is displayed and Access does not start: 'Microsoft Access can't start because there is no license for it on this machine'. I don't get a similar message when I run Word, Excel or Powerpoint. Please help me to get rid of this problem.

Verghese N.P.
Via e-mail

R This error occurs because Microsoft Access is not registered properly on your computer. Microsoft Access checks the Windows Registry for the following entry: HKEY_CLASSES_ROOT\Licenses\8CC49940-3146-11CF-97A1-00AA00424A9F.

If this entry is missing or corrupted, the error message appears. To fix this, go to **Start > Find > Files & Folders.** Type **hatten.ttf** and click OK. When found this file, rename it to hatten.xxx, and then reinstall Office 97. Rename the file back to hatten.ttf.

You can also use the Access Setup program using the command, **D:\Setup /y**

In the Installation Maintenance Program box, click Reinstall. This should also solve the problem.

Applications

+ Explorer errors

I keep getting the following message when I surf the Web: 'Explorer has caused an error in jscript.dll. Explorer will now close'. I have to close Internet Explorer after I get the above message. Please help.

P.K. Kothari
Via e-mail

R This problem usually occurs if Norton Antivirus is installed on your PC. You will need a Windows Startup floppy and the installation CD to fix this problem. Reboot your PC in command mode, using the Windows 98 Startup floppy. At the prompt, enter the following commands, pressing [Enter] after each command.

```
c:
cd windows\system
ren jscript.dll jscript.old
ren vbscript.dll vbscript.old
ren dispex.dll dispex.old
ren scrrun.dll scrrun.old
```

If you've booted your PC with CD-ROM support, then you may extract the following files from the Windows 98 CD-ROM support:

Jscript.dll
Vbscript.dll
Dispex.dll
Scrrun.dll

If you did not boot with CD-ROM support, you could boot normally and use the Windows System File Checker utility (go to **Start > Run.** Type **sfc**, and click OK) to extract these files. Reboot the system. This should fix the problem.

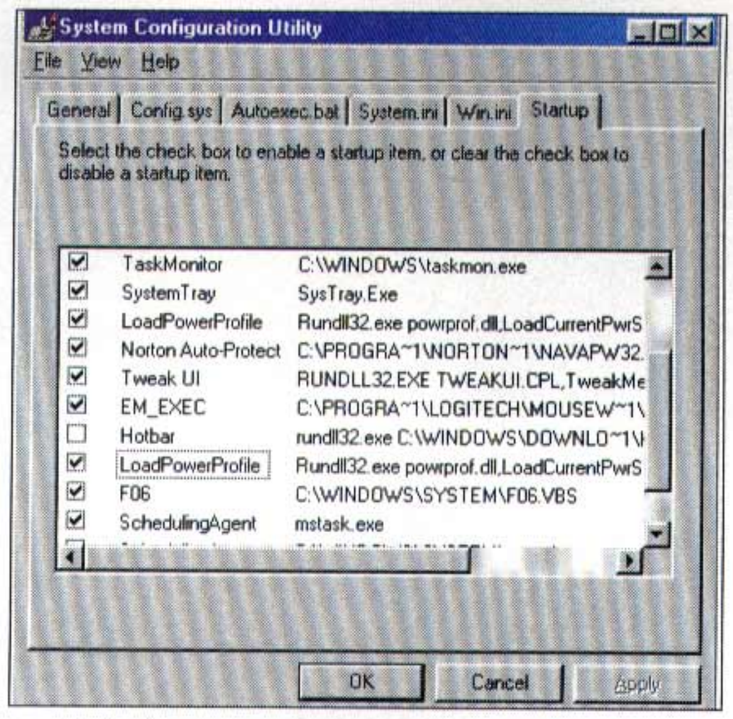
Windows

+ Additional entries in Startup

Is there any way to remove the extra entries in the Startup tab of the System Configuration Utility (MSConfig) in Windows 98?

Diljit Singh
Via e-mail

R If you are talking about the duplicate entries of the LoadPowerProfile, there is nothing you can do about this, as this is by default. MSConfig has two entries of LoadPowerProfile, as this utility runs twice. You cannot do much about the other duplicate entries either. If there are items in the Startup that you had disabled, and then reinstalled Windows, then there could be two entries for that application. When you next need to reinstall Windows, you should check each entry in the Startup tab, and then go through the upgrade or reinstall.



Multiple instances of LoadPowerProfile are a standard in Windows

Windows

+ Booting normally in Win 95

I get the following messages when I boot normally in Windows: 'The following file is missing or corrupted: c:\windows\himem.sys

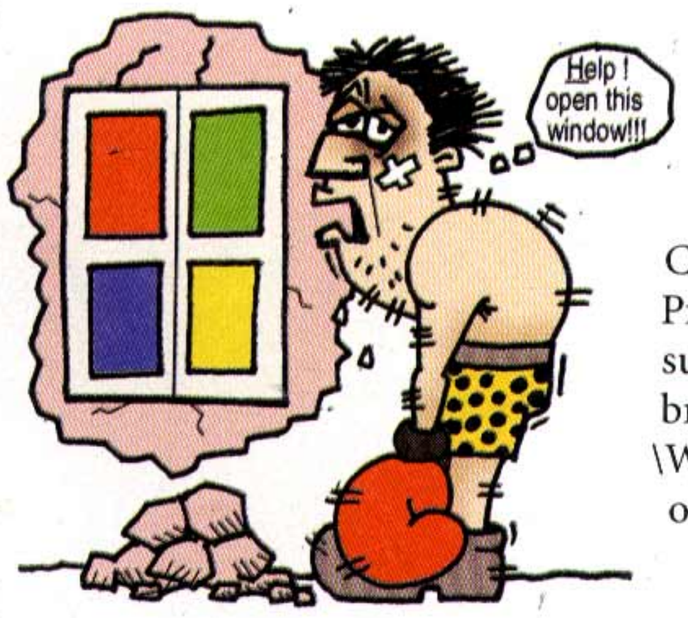
The following file is missing or corrupted: c:\windows\ifshlp.sys'.

However, when I use Windows 95 Startup menu and choose the logged option, it boots and works properly. Kindly guide me to boot normally in Windows 95.

Ruchi
Via e-mail

R The files, himem.sys and ifshlp.sys, must either have been moved or deleted. Start your system in Command Prompt mode by hitting the [F8] key while booting. At the command prompt, type the command, **DIR C:*.SYS /S/P**. This will list all the files with the .sys extension, on the C:\ drive.

If you find these two files, make sure that they are in the Windows folder. However, if you don't find the Himem.sys and Ifshlp.sys files, they probably have been deleted from your system. You will need to copy them from your Windows 95 CD.



Make sure that you have booted in Command Prompt, with CD support. Then browse to the \WIN95 directory on the CD-ROM and extract the files.

Application

+ Inoculation error

I have a Pentium 166 system. When I installed Norton Antivirus on my system, I got an inoculation error. When I repaired it, I got a message saying that the boot record of drive C: has changed after I repaired it.. Now I am unable to access D:\. How can I access D:\ again?

Narendra
Via e-mail

R You made a mistake by selecting Repair instead of Inoculate. Selecting Repair caused Norton to replace the boot records and the system files with information taken from the source's inoculation database. Now the Master Boot Record (MBR) and the DOS Boot Record (DBR), which get replaced, actually contain the necessary information to identify the file system used to access the data on the drive. If one of these is damaged, then the data cannot be accessed.

To fix the problem, you should have a Norton Antivirus Rescue Disk. Run the Rescue program on the disk to restore the boot records, and then reboot. You will now be able to access all the drives on the system.

If you do not have a rescue disk, you could resolve the problem by manually rebuilding the MBR and the BIOS Parameter Block. You might need the help of your local computer technician for this.

Hardware

+ Video moods

When I click on the capture card to play TV on my computer, the following message is displayed: 'Current VGA display mode not suitable for video overlay. Video quality will be degraded. Please install Direct Draw driver and change to high colour or above mode.' Please suggest ways to solve this problem.

Bharat

Via e-mail

Rx There could be several reasons for getting this message. You could try the following troubleshooting tips:

1. Use the latest DirectX and TV card drivers. Outdated, or corrupt drivers can result in errors or poor performance.

2. Try running the PC-TV card in a 16-bit, high colour mode. If this gives you problems, run it in the lowest graphics mode, that is, 8-bit, 256 colours, and check if the images are visible, even though they maybe of poor quality. You could then start increasing the mode to find out which setting gives you a good quality, without any error messages. Also, don't shift video modes (colour bit, refresh rates and video resolutions) while the PC-TV card is in use. The change in the video drivers can crash the system.

3. You could also use moderate video resolutions and refresh rates, and disable power management features such as screen savers, etc, to avoid such problems.

4. Another thing to check is whether you are getting a strong and clean TV signal. Make sure that you are using good quality cabling. Poor cabling and connectors can easily degrade even strong video signals. Check that all your video and audio cables are secure.

Windows

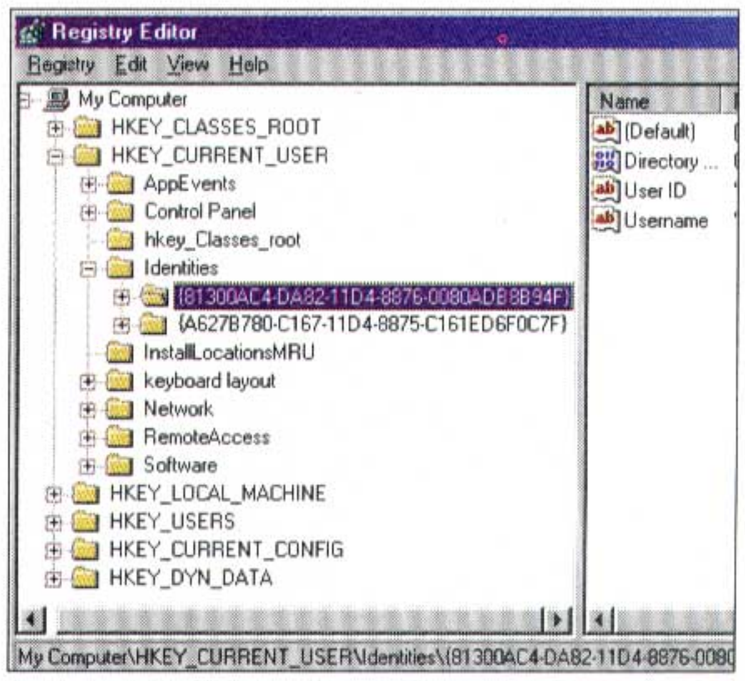
+ Identity Crisis

When I start Outlook Express, version 5, I get the following error: 'Identity switch cancelled. The current identity could not be changed because one of the applications was unable to switch'. How do I fix this?

Vinay

Via e-mail

Rx This problem occurs when a particular entry in the registry is either damaged or is missing. You will have to edit the registry to fix the problem. Make sure you take a backup of the registry before attempting to make changes to it. Go to **Start > Run**. Type **Regedit** and click OK. Navigate to the following key, HKEY_CURRENT_USER \Identities\. Double-click on Identities. The keys under Identities, in the left pane, are the account identities. Click on Account ID and make sure that a string value with the name, User ID, exists in the right pane, and it has the same value as that of the Account ID. If you have more than one Account ID, check for all of these. If necessary, delete and recreate the string, 'User ID'.



Fixing identity problems in Outlook Express

Windows

+ Win Me setup error

I get this peculiar error when I run the setup of Win Me: 'Setup must be able to create short filenames with numeric tails for files with names longer than 8 characters. Enable this option and try running Setup again.' I don't know what is the problem. I used to get the same error when I used to run setup for Win 98.

Jayesh

Via e-mail

Rx This error message may occur when you upgrade from Windows 95 to

Windows 98, or from Windows 98 to Windows Me, because of the presence of a particular string value in the registry. This removes the tilde (~) from the long file names.

As an example, the My Documents' long file name, mydocu~1, would be renamed to mydocume. This creates problems in the installation. To fix the problem, go to **Start > Run**. Type **regedit**, and click OK. Navigate to the following key, HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\FileSystem and delete the NameNumericTail string value. Restart the PC, and re-run Setup.

Another way to fix this problem, if it occurs while upgrading to Windows Me, is present in the Windows Me CD itself. If you run the installer, Nnt.inf, in the \tools\pssutil directory, it will do this registry editing.

Internet & Communications

+ Invalid page fault

I am facing a problem with IE 5. I get the following message after some pages open up and am forced to close IE: 'IEXPLORE caused an invalid page fault in module CRS32.DLL'. I've also tried running sfc.exe, but in vain. Please help.

Kirit Modi

Via e-mail

Rx The System File Checker checks only for the files needed by the system. The CRS32.dll is not a file that is needed by the system or a file that gets installed by default.

The CRS32.dll and crs.exe seem to be installed by some third-party software, which might be games or advertising software programs, or by spyware.

To get rid of the problem, you will have to manually find and delete all instances of the files, crs.exe and crs32.dll, from your PC. First boot your PC in Safe mode to ensure that these programs are not working in the background.

Then, using the Find utility in Windows, search and delete them. Next, boot the PC normally and go to **Start > Run**.

Type **regedit** and click OK. You should search for entries to the above files in the registry and delete them. If unsure, you could also rename them to something like crs32.old. Remember to make a backup of your registry before you make any changes.

Then select **Edit > Find** and search for CRS. Delete entries that use CRS32.dll and CRS.exe. As an alternative, if you know that the error has occurred after installing a particular program, logon to the Web site of that program provider, and browse through their support page for any mention of this error.

DO YOU NEED HELP? Send an SOS to sos@jasubhai.com
Or write in to DIGIT, D-222/2, Om Sagar Bldg, MIDC, Nerul-400 706

tips & tricks

Perfect with WORDS

Learn the smart moves to help you become a whiz at working with word processors

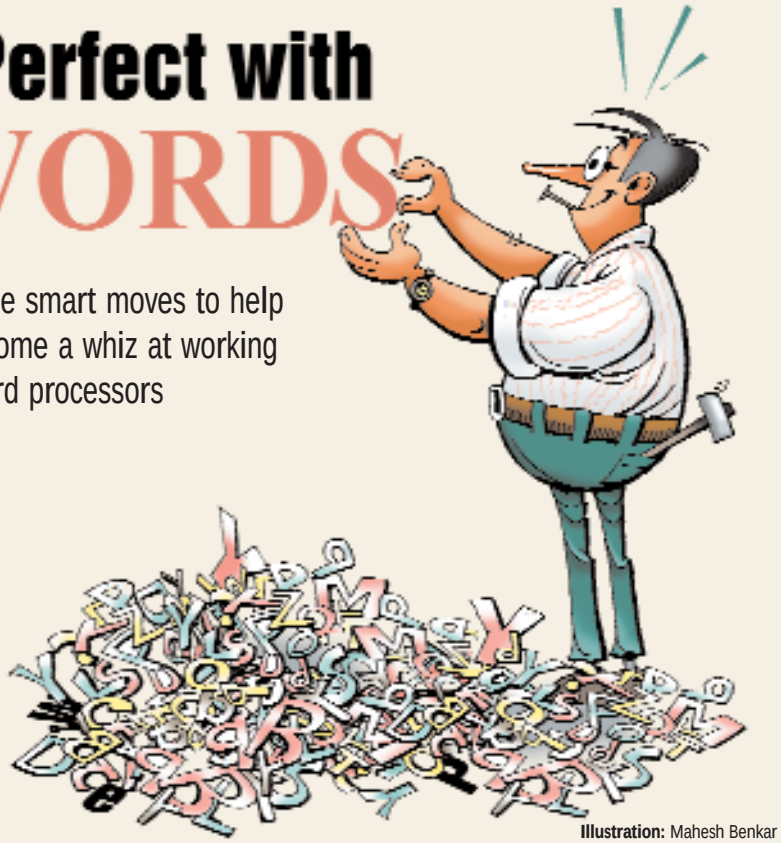


Illustration: Mahesh Benkar

Find it on digit interactive
Tips & Tricks
Graphics, DTP and Internet
Mindware

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MICROSOFT WORD

The most popular word processor in use by everybody with a rich set of features. Yet, there are many aspects of the word processor that you might not be aware of. So, work smarter and faster with these tips

Working with Toolbars

Working all day with a word processor can be quite demanding. And staring at a cluttered screen doesn't help matters any. Wouldn't it be nice if you could customise your toolbars, and place them strategically on your monitor screen?



Arrange the toolbars as per your liking

Apart from being easier on the eye, this would also give you more space on the desktop. Toolbars could be customised to display the buttons that are in frequent use. You can add, delete or copy buttons from the toolbars that come with Word.

Many of these customisations can be done using the [Alt] key. Buttons can be moved within the toolbar by pressing the [Alt] key and clicking on the button that's to be moved.

Keeping the mouse button pressed, drag the toolbar button to the new location. To delete a button, drag it off the toolbar. A button can be copied from one toolbar to another by pressing both [Alt] and [Ctrl] while dragging the button to a different toolbar.

Retrieving deleted text even after closing Word

You can clear text and bring it back using the 'spike' feature in Microsoft Word. Press [Ctrl] + [F3] after selecting the text or object that you want to clear. This will delete the text and append it to the spike. To retrieve the spike's contents and to clear it, press [Ctrl] + [Shift] + [F3]. However, if you need to keep the contents in the spike after recalling them, select Insert > AutoText > AutoText. In the box labelled 'Enter AutoText Entries Here', scroll through and select the spike option. Clicking the Insert button will then paste the contents of the spike. This can be seen in the Preview window without clearing the spike.

Wondering what a spike is? Well, it's an AutoText Entry area in which Word stores deleted text. This is not to be confused with the Clipboard. Spike is available even after an application is closed, whereas matter on the Clipboard isn't.

Shrinking documents

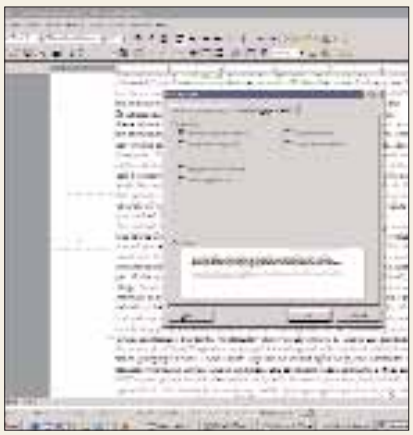
While typing a long document, it may happen that one or two lines of a paragraph slips to the next page. You might have wondered how to bring the lines to fit in the page. Here's the solution. You can use the 'Shrink to Fit' feature to fit everything on the page. Choose Print Preview and click on the Shrink to Fit button. Now your document is more compact—and you can feel happy at the thought that you've contributed your bit to preserving the environment by conserving paper.

Restoring graphics size

While taking screenshots you would normally paste them into your Word document directly, or after making some changes. Word fits these into compact frames and doesn't show the full size of the image embedded in the document. You can restore the original size of the image by using the [Ctrl] key. Press the [Ctrl] key while you double-click inside the image area. And behold, you have Pamela Anderson in all her glory!

Avoiding breaking of tables

The spillover mentioned while shrinking documents can affect tables also. Here's

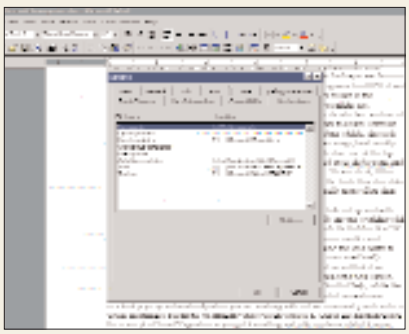


Use the 'Keep with next' option to keep paragraphs together

a handy tip to keep your tables intact. Select the first column of the table; choose Paragraph from the Format menu. Click the 'Line and Page Breaks' tab and check 'Keep with next'. Now you can be sure that your table doesn't spill over into the next page.

Changing the default save folder

You might not want to put all your eggs into one basket—or all your documents into the same folder. Word by default shows you the MyDocuments folder to save or to open files. You could modify this default Open/Save folder by making changes to Word's File Locations tab.



Specify the folder where you want to save your files

Ad will come

Choose Tools > Options and click on the File Locations tab, then choose Documents. Click Modify and specify the path in which you'd like your files to be saved or have Word prompt you to open files from.

Changing text in Print Preview

Oops! While in Print Preview, did you suddenly notice that you had typed 'unclear warhead' instead of 'nuclear warhead'? Don't bother about going back to your normal view. Just click on the magnifying glass button, and the pointer will change to a cursor. Now you can edit your document as you normally would.

Typing from last change

Closed a document abruptly and lost track of where you were? Don't worry, Word has an elephantine memory. It can remember the place where you made your last change. To open a document and continue typing where you left off when it was saved, open the document, press [Shift] + [F5], and presto—you're taken to the exact position where you had last made changes in the document.

Pasting from the Web

Are you working on a story and feel that you simply must include that nice little anecdote that you saw on the Web? Well, a direct copy-paste into your document could lead to strange formatting and unhappy colour combinations. To trash all the formatting that accompanies the copied text, select the text you pasted and press [Ctrl] + [Shift] + [N] and all the formatting is removed. Basically, this shortcut assigns the default Normal style to the copied text. Alternatively, you could press [Ctrl] + [Spacebar] to remove any formatting that's copied along with the text.

Quick select a sentence

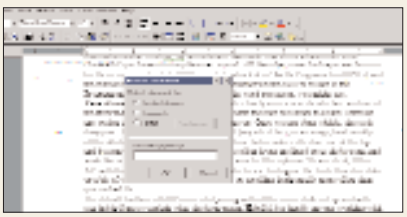
You might want to select a particular sentence for formatting or deletion. You can select a sentence by pressing [Ctrl] and clicking on any word in the sentence—this selects the whole sentence. Also, you can double-click to select a word, and triple-click to select a whole paragraph.

Inserting page breaks

Assume you have a five-page document, and you want to stop in the middle of page three and begin again on the top of page four. What's the easiest way to go about it? No, don't press [Enter], [Enter], [Enter]… until your paragraph moves to page four. Why not? Well, if you later add another word or sentence to page three, it will push the text on page four further down, and you'll have to delete several of the 'Enters' to make things work again. The correct way to accomplish this is to click at the end of the paragraph and choose: Insert > Break and then Page Break. This will insert a code that causes a new page to start after it. A shortcut key for this is [Ctrl] + [Enter] at the end of the paragraph.

Password protecting documents

You can protect your documents by assigning a password. But you can also allow others to just view the document (and not make any changes to it). Go to Tools, select Protect Document option. From the window that pops up, choose the Forms option.



Assign passwords to protect documents

You should ideally provide a password, because the user can always go back to Tools to unprotect the document. If provided with a password, the document becomes even more secure. Now your user would be able to navigate through the document but wouldn't be able to change anything.

Changing fonts using shortcuts

Changing the font size for a set of sentences and resizing another set can be cumbersome. You could use the keyboard to do the job of resizing instead of relying on the mouse to change the point size in the toolbar. [Ctrl] + [Shift] + [>] increases font size, while [Ctrl] + [Shift] + [<] decreases it.

Switching cases

You can change the case of the text in a jiffy using the keyboard. Press the [Shift] + [F3] combo, and the text toggles between Title Case, UPPERCASE and lowercase.

Modifying line spacing

If you change the indentation frequently, clicking on a button time and again is not the smartest way to go about it. Use the keyboard to do the same in a flash. Press [Ctrl] + [1] for single spacing or [Ctrl] + [2] for double spacing. You could also type [Ctrl] + [1.5] to get one-and-a-half line spacing.

A to Z of shortcuts

[Ctrl] + [A]: Select all
[Ctrl] + [B]: Bold
[Ctrl] + [C]: Copy
[Ctrl] + [D]: Font Formatting
[Ctrl] + [E]: Center Alignment
[Ctrl] + [F]: Find/Replace
[Ctrl] + [G]: Go to
[Ctrl] + [H]: Replace
[Ctrl] + [I]: Italics
[Ctrl] + [J]: Justified Alignment
[Ctrl] + [K]: Insert Hyperlink
[Ctrl] + [L]: Left Alignment
[Ctrl] + [M]: Indent
[Ctrl] + [N]: New document
[Ctrl] + [O]: Open a document
[Ctrl] + [P]: Print
[Ctrl] + [Q]: Paragraph Spacing
[Ctrl] + [R]: Right Alignment
[Ctrl] + [S]: Save current document
[Ctrl] + [T]: Hanging Indent
[Ctrl] + [U]: Underline
[Ctrl] + [V]: Paste
[Ctrl] + [W]: Close document
[Ctrl] + [X]: Cut
[Ctrl] + [Y]: Repeat
[Ctrl] + [Z]: Undo

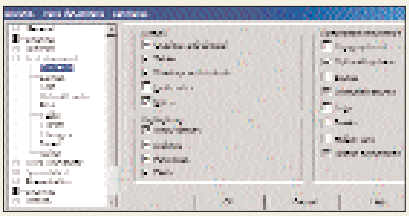
Ad will come

STAROFFICE

This free Office suite comes with StarOffice Writer—a word processor with some good features

Enabling viewing graphics

If you embed graphics or images in your document, StarOffice Writer might show them as frames with the filename enclosed within. Don't worry, it could be



Enable viewing of pictures

that the option to view graphics is disabled by default to enable optimal loading of your document. (A document that's stuffed with graphics could take ages to load.) To enable the option, click on Tools > Options > Text Document > Contents. Enable the 'Pictures and Objects' option in the display section. Click OK to effect the changes… and presto, your pictures magically appear.

Saving as PostScript

The advantage of a PostScript file is that it can be printed from any machine, even one that doesn't have StarOffice installed. To save a file as a PostScript file, click on File > Print. Enable the 'Print to File' option in the Print dialog box. Save the output to a file with a .PS extension. Now you can use the output file to print the document from any system with or without StarOffice.

Maximising workspace

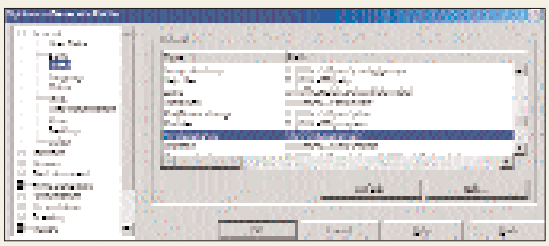
When StarOffice loads, it starts up in a window of its own and has all the elements confined within that space. Opening a Writer document within this would be even more difficult to view. To maximise the viewable area and to have a clear view of the document, use the Integrated Desktop option from the View menu or just press [Ctrl] + [Shift] + [I]. This overwrites the screen with only one visible window, thereby maximising the view space.

Configuring toolbars

StarOffice Writer has a number of toolbars that it loads by default. Your desktop will be a big mess if you let this happen. It's better to have only those toolbars that you use often. You can do this by configuring your toolbars. To choose the toolbars that are to be loaded with StarOffice Writer, go to Tools > Configure. Choose the Toolbars tab and select the tools that you would require the most.

Changing default paths

Most of the default settings can be changed. Ditto with file locations. This could prove useful if documents you work on are distributed over different locations. To change the default path for StarOffice documents, click through Tools > Options > General > Paths. Scroll down and select the Work folder. Click on the Edit button to change the default path and

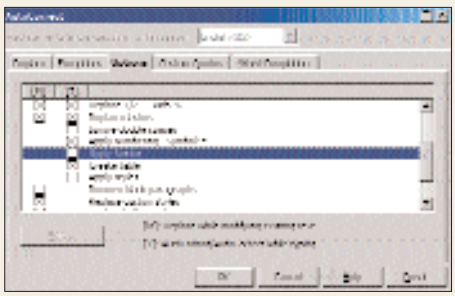


Change the default settings to your liking

change it to a directory of your choice. Other folders could also be edited from the list that shows up.

Removing page borders

In StarOffice Writer, the auto border is enabled by default, and it can be quite annoying. A document without a border is always preferable. To change the default settings, go to Tools > Autocorrect/



Uncheck the Apply Borders option

Autoformat. Under the Options tab, scroll down to the Apply Border Item option. Disable it and click OK to effect the changes. Now you don't have to be circumscribed by borders anymore.

Spell-checking in different languages

Occasionally, you might want to check spellings for other languages compatible with StarOffice Writer. You can spell-check documents written in other languages just as easily as you would check the ones in English. Click on Tools > Options > General > Spelling > Language. Activate All Languages under Check Spelling. Click OK to exit the dialog box. You can set the language for the text by selecting it and clicking on Format > Character > Font.

Recording your job

If you do repetitive formatting or use the menu quite often for some purpose, you could record the sequence of operations with the Macro record option in Writer and execute the recorded code whenever you want to perform the same actions. For example, if you want to insert a picture (or a series of pictures), you could record the sequence of operations by clicking the record in the Tools > Macro submenu and save the macro with a specific name.

Ad will come

LOTUS WORDPRO

A word processor that combines complex features and features of daily use with an ease-to-use interface that most word processors cannot match

Creating auto-entry fields

Try typing this: ?^È?§. Easy? Now type that again. Before you throw in the towel, remember that you can set Word Pro do such seemingly complicated tasks. You can store frequently used phrases in a glossary entry. To create such an entry, select the text and click on Edit > Glossary. Type a name for the entry in the Glossary entry name box and click Create. To use this entry, click on Edit > Glossary, select the entry you wish to insert and click on Insert. What could be simpler?

Note: you can also bring up the glossary window by pressing [Ctrl] + [K]

Anchoring to paragraph

If you're a power user, you might want certain things in your document to be nailed in place. WordPro has options that allow you to stick part of a graphic or text to one place. If you want to beautify a graph, image or a section of text,



Use Frames to anchor text

you can use Frames. Click on Create > Frame. Enter the frame width and height in the respective boxes and click on OK. To insert text in this frame, click within the frame and type the text. To insert an image, click on File > Import Picture. This ensures that your text and your picture doesn't move anywhere if any reformatting is done to the document.

Slashing the splash screen

This is another time-saver. Every time you open the Word Pro application, the splash screen pops up and irritates you. To disable the opening splash and welcome screens, right-click the shortcut that opens Lotus Word Pro and click on Properties. At the end of the Target line, type /q. To disable only the logo screen, type /s. If Lotus is installed in C:\Lotus, the command line would be C:\Lotus\wordpro\wordpro.exe /q.

Working with master documents

When creating a new document using an Application SmartMaster, Word Pro will emulate the application's environment for creating that document. When you reopen this document, Word Pro returns to its native menu set. If you would like to use an Application SmartMaster, complete the following steps:

1. Choose File > New Document
2. Choose the 'Create from any SmartMaster' tab
3. Choose the Type of SmartMaster that corresponds to the Application environment that you would like to work in (for example, 'Lotus Ami Pro', 'Microsoft Word' or 'Corel WordPerfect')
4. Click on OK.

Changing default fonts

To change the default font of any of the SmartMasters available with WordPro do the following: Choose File > New Document. Select the SmartMaster to be changed and choose OK. Choose Text, Text Properties from the pull-down menus. Select the 'Font' tab (first tab on the left) of the Text Properties InfoBox. Change to the desired font, font size and/or colour. Select the 'Style' tab of the Text Properties InfoBox. Click 'Redefine Style'. Choose OK to close the Text Properties InfoBox. Choose File > Save As from the pull-down menus. Change the file type to 'Lotus Word Pro SmartMaster (*.MWP)'. Enter a description if desired. Change the directory to the location where the SmartMasters are stored. Type the filename for the SmartMaster, then press the [Enter] key. Answer when prompted: "Would you like the name of the editors who created this SmartMaster kept anonymous by assigning all edits to an editor named 'SmartMaster'?"

Keeping track of versions

It always happens that you wish to revert to something you had typed earlier, but which you unfortunately lost. WordPro allows you to keep track of the documents you work on, and you can use

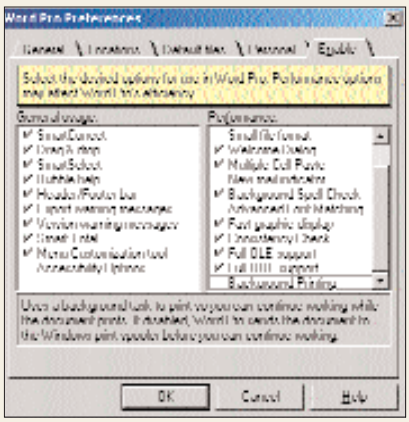


Working with versions

version control on your documents. To keep track of document revisions, click on Edit > Markups. This enables tracking of document revisions. To review changes, click on Edit > Review Marked Edits. This relieves you of tracking changes and reverting to any previous phase of documentation.

Enabling faster printing

Are you getting stuck while printing long documents? Check to see if your background printing option is enabled. It's



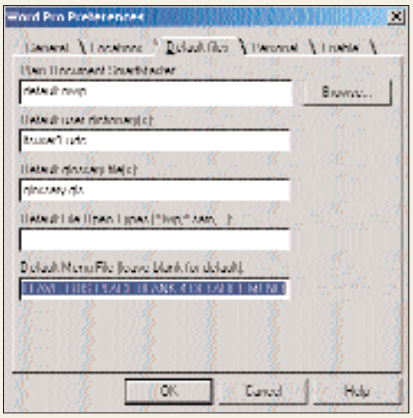
Disable the background printing option

Ad will come

not required for the document to be printed. Select File from the menu bar, then User Setup, then WordPro Preferences. On the Enable tab in the right panel, scroll down to check if the Background Printing option is disabled.

Customising menu

WordPro gives you the option of either loading a customised menu or its default menu using the menu customisation option. To restore the Menu Customization option, choose File > User Setup, and then click on Word Pro Preferences. Then click the Default Files tab. Delete the entry in the Default Menu File text box and click OK. Word Pro will now revert to the standard menu set.



Customise the menu to your liking

Formatting bullets

The properties of a bullet, number, or leading text can be different from other text in the paragraph. Place the insertion point at the desired bullet or number. Click the right mouse button and choose Text Properties.

Click the Bullets tab. Select 'Edit on page'. The cursor moves to the protected space immediately to the left of the bullet or outline number. Make the necessary changes.

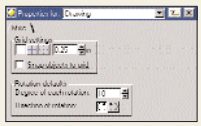
When you resume working in the text, Word Pro deselects 'Edit on page.' You should consider creating a style for your changes, so you can apply this style to the other elements.

Disable snapping to grid

Did you draw objects or insert pictures, and found that everything gets stuck? This could happen because WordPro is aligning the objects to a grid that exists in the background.

You can turn off this automatic alignment if you right-click somewhere in the drawing frame, select Draw Properties, and remove the check mark from the Snap Objects To Grid checkbox in the Misc. tab.

This is one feature by which WordPro makes sure that your objects in the document are in alignment.



Disable the Snap Objects to Grid for more flexibility

COREL WORDPERFECT

A lot of people swear by this word processor and claim it is the best when it comes to handling lond documents. Now, get more out of the software with these nifty tips

Suppressing splash screens

If you work all day in WordPerfect, you'll soon find yourself getting tired of the screen that pops up every time you open the application. Here's how you can kill it for good. First locate the shortcut you use to start WordPerfect. Right-click the shortcut and choose Properties from the menu. Place your cursor at the very end of the filename in the Target text box. Tap the space bar once, then type a colon (:). Click OK to apply the change. The next time you launch WordPerfect, you'll see a slightly faster start-up. It could be just a few seconds that you gain, but when you're in a hurry, every second counts.

Placing your toolbars right

If working in WordPerfect is part of your job, it's better that you customise the looks of the working area of the document by placing the toolbars at locations where they come in handy and don't occupy much space. Instead of placing all the toolbars row by row, put one on the right panel and one on the left panel so that you have more space to work. For example, you could place the Print Preview toolbar on the left edge and the page toolbar on the right, leaving the default toolbar at the top, below the menus. This way you could regain valuable screen space and be better organised.

Changing default font

When WordPerfect is installed, it chooses Times New Roman as the default font for all the documents that you create. You could change the default font by doing the following. Choose File from the menu and select Document from the list. Choose Document from the slide menu. Decide on your choice of font, press the Settings button and click on 'Set face and point size as default for all documents'. You're done. All the documents that you create would be in your favourite font. Just make sure you don't select a typeface like Bernhard Fashion BT, or you may have to visit an optician between typing sessions.



Change the settings of your default font

Smart way to use QuickCorrect

Typing something that's repetitive is plain boring. It becomes even more

Ad will come

painful when the phrase happens to be a long one and has some special symbols. WordPerfect's QuickCorrect feature lets you create and add 'shortcut' entries. Click Tools > QuickCorrect. Type 'ilu' in the Replace box and type 'I love you!' in the With box.

Click Add Entry, and click OK. Now every time you type 'ilu' in WordPerfect, out pops 'I love you'! Just don't let your boss catch you practising with this particular example at office.

Switching documents

There are three basic ways to switch between open documents. One way is to click Window, then click on the document you want to switch to. The second way is to add a button to your toolbar that lets you cycle through open documents. Next Window switches you to the next lower document in the Window list. Previous Window switches to the next higher document in the Window list. The third method to cycle through documents is to use keyboard shortcuts. The default keyboard assigns [Ctrl] + [F6] to open the next document and [Ctrl] + [Shift] + [F6] to open the previous document.



Add buttons to switch documents

Sorting files in Open Dialog

Files can be sorted in the open dialog box. When you click File > Open, the open dialog box pops up and asks you to choose a file to open. This interface is similar to Windows explorer and hence gives you the option of sorting files and grouping them according to the file type. You could arrange the files in this open dialog box as you would do with Windows Explorer.

Using character map

Using WordPerfect's QuickFinder or Windows Find, search for a file called CHARMAP.WPD. For WP9, it's in the \program files\Corel\WordPerfect Office 2000\ programs folder. For WP8, it's in the \Corel\Suite8\Programs folder. Open it in WordPerfect, print it out and keep it handy.

Making the document fit

If you've been wondering how to squeeze those last few lines spilling over to the 11th page back on to page 10, use the Make it Fit command. Select the pages that you want to fit and click on Format > Make it Fit. You can then select which of the page parameters (margins, font size, line spacing, etc) may be modified for fitting the text. Click on Make it Fit to apply.



Select the option to keep text together

Labels in a jiffy

Here's how you can create labels easily. In an empty document, click on Format > Labels and choose a label definition from the list. You now get a blank label. Click on Tools > Address Book, choose the records in a book, or click on Address List to make a list from several books. Click on Insert. The selected addresses will be formatted as labels.

Protect paragraph headings

Block Protect prevents selected passages of text, such as a paragraph heading and the text of the paragraph, from being split across two pages. Move the cursor to the beginning of the text to be selected. Select (or block) the text you want to keep together. Select only the paragraph heading and the first two lines of the paragraph text. Now click Format > Keep Text Together. Select the Block Protect option. Choose OK or press [Enter].

Managing Table of Contents

A Table of Contents (TOC) is an index that shows the sections dealt with in a document. Creating TOCs helps make navigation to different sections of a document easier. When creating a TOC, you must first decide on the levels of the entries. Level 1 heading, for instance, could be article title, Level 2 heading could be section titles, and Level 3 heading could be subsection titles. WordPerfect's Table of Contents can have as many as five levels. Each level has its own style, which you can edit or leave as is, governed by WordPerfect's default parameters. The TOC function draws on a Feature Bar, which enables you to mark any of five levels of the TOC, and also provides the buttons to Define or Generate the table.

Creating a table Header Row

Tables are inevitable parts of many documents. If you're working with a table that continues on to several pages and you want the heading of the table to appear on each page, you can create a Header Row. Move the cursor into the top row of the table. Select (block) the rows that are to appear in the header row. Choose Table Format or press [Ctrl] + [F12] and choose the Row selection. Select Header Row and choose OK to return to the document window. Now, every page that the table skips through would have the same header row, which makes your job easier.

WordPerfect Shortcuts

[Ctrl] + [F8]: Change page margins
[F9]: Change Font and Font size
[Ctrl] + [F1]: Spell check
[F2]: Open the Find and Replace dialog box
[Ctrl] + [Shift] + [Z]: Undelete (the last three deletions)
[Ctrl] + [F5]: Draft View
[Alt] + [F5]: Page View
[Alt] + [F3]: Reveal Codes on/off
[Ctrl] + [W]: WordPerfect character set dialog box

Ad will come

WORD 2002

The latest version of Word that ships with Office XP now comes with a number of user-friendly options

Selecting non-contiguous words

In earlier versions of Word, you could not randomly select words. But now, with the same technique you would use to select non-contiguous files in Explorer using the [Ctrl] key, you can select words in a document randomly.

Click the first word to be selected and select the next word anywhere in the document by holding the [Ctrl] key and there—you have a random selection now.

Faster word count

Word 2002 allows you to track word counts as you work on your document. You don't have to strain yourself to click Tools > Word Count. Instead, you can use the new Word Count toolbar. On the View menu point to Toolbars and click on Word Count. Click on Recount any time you wanted an update on the word count. You will now see the usual statistics that earlier versions of Word popped up when you clicked the Tools > Word Count option. You can also use the shortcut keys, [Alt] + [C] to recount and [Ctrl] + [C] for the new word count to appear in the toolbar.

Displaying more of the recent documents

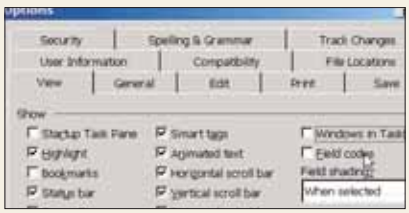
Often you would be working on multiple documents and your job might require opening documents that were worked on recently. But the recently used files list on the Files menu just shows four. You could lengthen the list that Word shows up in the Files menu by changing the More documents option. On the Tools menu, click on Options. Click the General tab if its not highlighted. In the Recently Used file list box, specify the number of files you want to appear in the New documents pane. Click OK to make the changes effective. Now Word shows you the number of files you had specified, that were recently worked on.

Continue numbering after paragraph breaks

At times, you will encounter situations where you need to insert a paragraph by breaking a numbered list and at the same time, ensure that the list continues after the paragraph is inserted. Word 2002 allows you to do the same. Click the Numbering button on the Formatting toolbar. When the Autocorrect Options Smart Tag appears, choose the Continue Numbering option to resume your numbering list starting with the next number from where you had inserted your paragraph.

Documents in a single window

Word 2002 now allows you to have multiple document interfaces (MDI) instead of the earlier single document interface wherein it added multiple tabs for different documents in the Taskbar. To have an MDI, disable the Windows in Taskbar

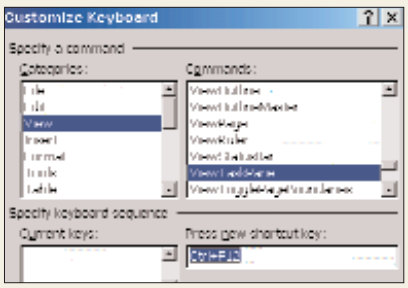


One window for all your docs

option from Tools > Options. Here, clicking on the Views tab. This way all your documents remain in the same window and you will not see too many icons on the taskbar if you happen to open more than one document.

Shortcuts to Task Pane

Working with the new Task Pane requires you to use the mouse a lot. Instead, you can assign a shortcut for the same and could either bring up or hide the task pane. Choose Tools from the menu and click on Customize. Click on Commands tab, and click the Keyboard



Assigning shortcut for task pane

button near the bottom of the dialog window. Select the View option in the categories, which is to the left, and scroll through the list that's available on the right side to locate View Task Pane. Choose a new shortcut that you wish to use in the Select New shortcut key field. Assign any shortcut and click OK to make the changes effective. Now, you could press the assigned shortcut key to bring up or hide the Task Pane.

Printing multiple pages

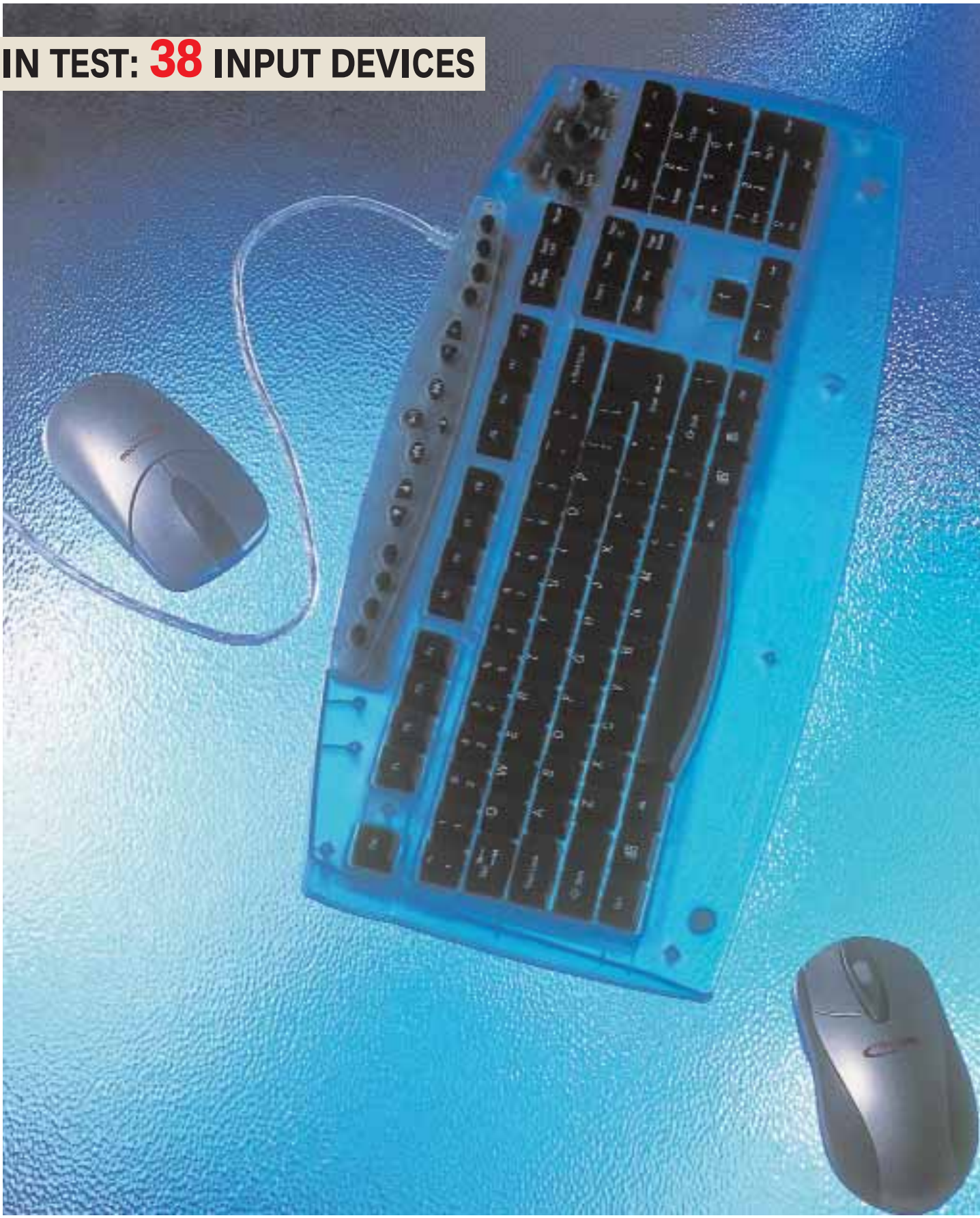
Word 2002 is in a sense eco-friendly and you can print multiple pages on a single sheet of paper. To do so, go to File > Print to bring up the print dialog. Click the Zoom button placed in the bottom right corner of the dialog. Select the number of pages that you would like to print per sheet and click OK. Normally, two per page with 12-point size makes it readable without compromising much.

Translating into other languages

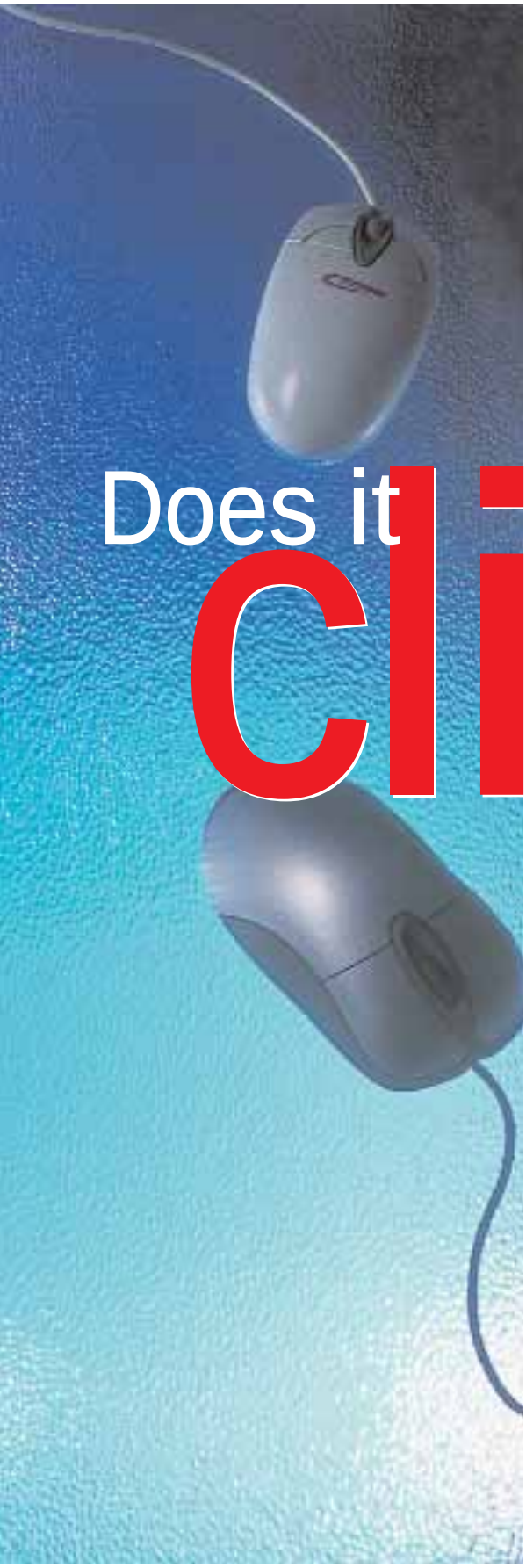
Word 2002 also comes with a simple word translator that can convert to other languages. However, the translator is basic, so don't expect much. To convert a sentence, select the sentence and choose Tools and then Language. Select the Translate option to bring up the Translate Dialog window. Pick the required language dictionary from the dialog and then click Go. You will now get the required translation.

Ad will come

IN TEST: 38 INPUT DEVICES



Photograph: Ashesh Shah



Does it click with you?

Flex your wrists and pick the one that's easy on your hands. We're talking about mice and keyboards

YATISH SUVARNA

What would you do if your mouse or keyboard hangs when you're in the middle of some important work? Bang on it in frustration, in all probability. Reliable input helps ensure reliable output, so the quality of the input devices you use with your computer is crucial.

Many different types of input devices exist, such as keyboards, mice, trackballs and joysticks. The mouse has undergone a design renaissance lately. Newer models have been contoured to fit the human hand comfortably. Apart from the usual two-button and three-button mice, there are

Find it on digit interactive

More Info on the test process and the products tested, check out **Mindware**

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mice with built-in wheels that can be used to scroll through large display windows.

For many years, the design of computer keyboards remained relatively standard: alphanumeric keys arranged in traditional QWERTY fashion with some additional, computer-specific keys. Newer keyboards reflect concerns such as ergonomics. 'Natural' keyboards, for example, divide the familiar horizontal rows of keys into two discrete vertical halves, which allow you to type with your arms at a more comfortable angle. Many keyboards provide wrist support. Some include built-in pointing devices—usually a touch pad. Clearly, input devices have changed in recent years—both in looks and in technologies. This review will help you choose one that matches your personal needs and preferences.

TEST PROCESS

The system used to evaluate the input devices consisted of a Celeron 466-based computer with 64 MB SDRAM. The operating system was Windows 98 SE, loaded on a cleanly formatted system. The drivers of each device were loaded as the testing was done, and uninstalled before connecting the next one. This was to ensure that the drivers didn't conflict with one another.

Mice

We tested each mouse for its build quality and features. We also took into consideration its customisability. Extra features were rated for the amount of help they provided, not just for mere presence. If the mouse was detected and installed automatically, extra points were awarded. The most important factor considered was the ergonomics and the feel of the device. To test the sturdiness of the devices, we decided to do a 'drop test' on the mice by dropping it from six feet.

Keyboards

Comfort is the 'key' thing here, because the keyboard is a component that is generally used for long periods of time. The position of the wrists when it rests on the keyboard is very important, so is the layout of keys. We also looked at the quality of keystrokes. The smoothness and placement of important keys and shortcut keys, and sturdiness were also taken into consideration.

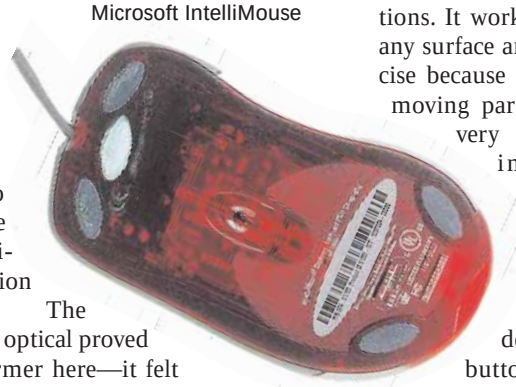
MICE

We tested 27 mice that covered regular mice along with optical ones.

Build quality

Input devices tend to get roughed up while being used, so they need to be sturdy. The **Microsoft Intellimouse** did very well here. There wasn't a single crack or any deformation in this device. The same goes for the Trackman Marble FX that cakewalked through this test. Other contenders who passed the test with flying colours included the Anubis Autoscroll mouse, Maple Wheel 3D mouse, Typhoon 3D optical mouse, and Maple Scrolltrack 4D.

Microsoft IntelliMouse



Performance

People who are into gaming or hardcore graphics love the precision that a high-resolution mouse provides. The **Logitech Wheel Mouse** optical proved to be a laudable performer here—it felt great while playing games and also while editing images. For the low-end user the Maple Eagle mouse is a good choice at a resolution of 520 dpi. The Microsoft Intellimouse is good enough for gaming and image-editing but sometimes loses track while executing quick movements. The Maple 2Wheel 4D mouse also proved to be good in this area with acceptable precision.

Mention must be made of the Logitech cordless MouseMan wheel, which was very precise in its movements not only in normal Windows use but also in hardcore gaming. The Logitech Trackman Marble FX also is very good for the precision-minded user, though playing games can be a bit tricky. The mice that were low on precision were the Typhoon Scroll Mouse 4D, Anubis Mouse Mena 2 and Turbo Mouse 911. These mice went off track quite often during heavy image editing and fast gaming.

Features

The Microsoft Intellimouse doesn't disappoint in features. It lets you effortlessly breeze through the Net, and all your work and entertainment applications. It works on almost any surface and stays precise because there are no moving parts. It is also very easy to install—just plug it into the USB port and it automatically gets detected. The buttons could have been placed in a better way though. For instance, the thumb button could be placed a bit lower, to make the device more comfortable to use.

The Trackman Marble FX has a sensor that records the position of the ball many times per second by continuously bouncing light off the red sphere. The four buttons can be configured with the installed program to be any key on the keyboard, or other useful commands (double-click, drag lock, etc). These 'extra' buttons were found to be quite practical, saving some time and effort. The only negative thing about this mouse is that the shape of the mouse is designed specifically for the right-handed.

An interesting thing about the iFeel mouse is that it comes bundled with immersion software. However, we found that the usability and features offered by iFeel technology—which allows you to actually feel different sensations through the mouse, depending on where your cursor is—does not serve any practical purpose for the home user or for any application. All this technology does is that it makes the mouse vibrate in different pre-stored or customisable tones: you can configure the mouse to feel as if you were working over glass, rubber etc. The Maple 2Wheel 4D Mouse also has incorporated some interesting features like Net jump and Lucky jump, which put into one convenient grid commonly used tasks for Web browsing and Windows environment, respectively.

The Dot Com mouse has a feature called Live and Direct, which through your Internet connection brings headlines to your Dot Com Mouse display, and instantly produces a link to the corresponding Internet site, which is activated when the @ button is pressed. You can easily get access to the sites that offer the detailed information you need. Because it is shown on a separate display, you can always keep your normal work on. The usability of the device is questionable because mostly people prefer the monitor to surf the Net, rather than any other device that offers you a display area of less than a couple of inches. The Hitech Balless Internet mouse was very low on features—it did not include any driver software to configure

the shortcut keys and there wasn't any manual included either.

Ergonomics

How easy are they on your hands when used for long stretches of time? This is a crucial consideratin when it comes to selecting an input device. Since using a mouse involves long stretches of constricted hand movement, faults in its design can cause repetitive stress injuries to your hands and wrist. Apart from good grip and non-slip surfaces, the placement of extra buttons, position of rollers, etc also makes a difference. More than the main mouse button, these are the buttons that will require you to make non-standard moves with your fingers, which can result in extra stress. And if you are left-handed, then you should also check whether it can be used comfortably by both right- and left-handed people.

The **Trackman Marble FX** really packs a punch as far as comfort is concerned. It grips the desk firmly thanks to its rubber base, and one can comfortably rest one's palm on top of the device. The rubber also prevents the mouse from slipping and sliding. The Logitech Cordless MouseMan Wheel is also ergonomically shaped. It fits your palm very nicely and you are not restricted by the presence of a cord.

Value for money

No matter how advanced the features or technology, an input device should give good value for money. If it's priced higher than the others but still provides you with good features, it's worth considering. The Logitech Cordless MouseMan Wheel proves this point. This device is priced a bit higher than the other mice in its range but provides you with great features, good looks, precision and frees you from the wired world by letting you go cordless. If you are looking for a low-priced mouse that offers you good features, the **Maple Wheel3D** mouse should be a good choice—at just Rs 600, it is cheaper than the other scroll mice in its category. But the Anubis Mouse Mena 3 and the Maple Eagle mouse really break the price barrier by providing mice that have rock bottom prices. The Maple Eagle mouse feels comfortable and is quite precise; the price is the icing on the cake.

Drop Zone

To test the sturdiness of the mice we decided drop them thrice from a height of 6 feet one by one and then checked for any deformation. TThe mouse that really couldn't stand the test was the Turbo Mouse 911, which got totally decimated during the test. The mouse lost its hood in the first drop itself. The buttons of the Anubis Mouse Isis came out of their sockets and was unfixable. The Dot Com mouse faced the same plight while the buttons were rendered useless after being dropped thrice. The Logitech cordless mouse man wheel survived the test with a broken ball cap. The trackball of the Maple Scroll Track was dislodged from its socket but it was fixed back and no parts were damaged. The mice that romped successfully through this test were the Microsoft Intellimouse, which didn't suffer any cracks or broken parts, and the Logitech Trackman Marble FX which proved to be of excellent build quality.

SCORE BOARD Specifications

Playing with the Mice

Manufacturer	Model	Interface	Technology	Contact	E-mail	Phone	Price (Rs)	Rating
Anubis	Autoscroll Mouse	PS/2	Mice	Hitech Computers	bom@hitechit.com	022-4914642	330	B
Anubis	Mouse Isis	PS/2	Mice	Hitech Computers	bom@hitechit.com	022-4914642	225	B-
Anubis	Mouse Mena 2	PS/2	Mice	Hitech Computers	bom@hitechit.com	022-4914642	110	B-
Anubis	Mouse Mena 3	PS/2	Mice	Hitech Computers	bom@hitechit.com	022-4914642	110	B
Anubis	Turbo Mouse 911	PS/2	Mice	Hitech Computers	bom@hitechit.com	022-4914642	480	C+
Logitech	Cordless Mouseman Wheel	Radio	Mice	Rashi Peripherals	ho@rptechindia.com	022-8260258	4,500	A-
Logitech	First Mouse Plus	PS/2	Mice	Rashi Peripherals	ho@rptechindia.com	022-8260258	950	B
Logitech	iFeel Mouse	USB	Mice	Rashi Peripherals	ho@rptechindia.com	022-8260258	3,600	B
Logitech	Mouseman Wheel Optical	Optical	Mice	Rashi Peripherals	ho@rptechindia.com	022-8260258	3,400	B+
Logitech	Trackman MarbleFx	PS/2 or USB	Trackball	Rashi Peripherals	ho@rptechindia.com	022-8260258	6,000	B+
Logitech	Wheel Mouse Optical	Optical	Mice	Rashi Peripherals	ho@rptechindia.com	022-8260258	NA	B+
Maple	2Wheel4DMouse[WWW 23]	PS/2	Mice	Micro Masters	farr@bom.vsnl.net.in	022-3880597	525	B
Maple	Cable Free[IRW 25]	Radio	Mice	Selathaar Industries	marketing@maple.cu.in	044-8252275	1,200	C+
Maple	Eagle Mouse[OK 720]	PS/2	Mice	Selathaar Industries	marketing@maple.cu.in	044-8252275	110	B
Maple	Optical Great Eye [WOP 35]	Optical	Mice	Selathaar Industries	marketing@maple.cu.in	044-8252275	1,800	B-
Maple	Scroll Track[WWT 5]	PS/2	Trackball	Selathaar Industries	marketing@maple.cu.in	044-8252275	850	C+
Maple	Scrolltrack4D[WWT 13]	PS/2	Trackball	Selathaar Industries	marketing@maple.cu.in	044-8252275	850	B-
Maple	Wheel 3D Mouse[SWW 23]	PS/2	Mice	Selathaar Industries	marketing@maple.cu.in	044-8252275	375	B+
Maple	Winbest4D Plus[WWW 11]	PS/2	Mice	Selathaar Industries	marketing@maple.cu.in	044-8252275	950	B-
Maple	Wireless Radio3D Mouse [RFSW 25]	Radio	Mice	Selathaar Industries	marketing@maple.cu.in	044-8252275	1500	B
Microsoft	Intellimouse Explorer	Optical	Mice	Mnemonic Systems	mnemonic@vsnl.com	022-8010871	3300	B+
Typhoon	Dot Com Mouse	Optical	Mice	Hitech Computers	bom@hitechit.com	022-4914642	3100	B-
Typhoon	3D Optical Mouse	Optical	Mice	Hitech Computers	bom@hitechit.com	022-4914642	1150	B+
Typhoon	Cordless FM Pro Mouse	Radio	Mice	Hitech Computers	bom@hitechit.com	022-4914642	1550	B-
Typhoon	Scroll Mouse 4D	USB	Mice	Hitech Computers	bom@hitechit.com	022-4914642	440	B-
Typhoon	Unplugged Mouse(RF)	Radio	Mice	Hitech Computers	bom@hitechit.com	022-4914642	2800	B
NA	Balless Internet Mouse	PS/2	Mice	Micro Masters	farr@bom.vsnl.net.in	022-3880597	900	C+

KEYBOARDS

We tested 11 keyboards that also included a few cordless ones.

Build quality

As far as build quality is concerned, the Samsung SDL1500 feels great. The keys can withstand a lot of beating even after prolonged usage. The noise level is minimal, and the buttons give a good feel while typing. The keys do not attract much dust either. The base of the keyboard grips the desk very nicely. The Acer Acufeel keyboard also can withstand a lot of rough use without complaining. The build quality of the keyboard is excellent and has extra protection to protect the membrane, which has the circuit etched on it, from direct contact from dust and liquid. The keys feel smooth while typing and make very low noise. The Logitech cordless freedom navigator is also a good choice for people who enjoy good build quality. This keyboard feels good-n-chunky and the noise while typing is almost nil.

Performance

The quality of keystrokes is an important characteristic. A good keyboard has a nice feel to it while you type on it—the keys get pressed smoothly and you don't have to bang on them. And of course, it doesn't make a loud racket when you type.

You can work faster if the shortcut keys are placed so that they can be executed faster. So if you want a keyboard that performs well, look for the smoothness and placement of important keys and shortcut keys.

We found the **Logitech Cordless Freedom Navigator**, a mouse-and-keyboard combo, very good where it came to performance. The normal keys are well laid out and so are the shortcut keys. The feel of the keyboard while typing is very good. The keyboard feels comfortable while typing and the palm rest can be detached if you want more desktop space. The soft touch side panels offer a comfortable grip while the device is being used. The Maple Internet Media keyboard too has a good layout of keys and the device includes an e-mail indicator. It has a standard keyboard layout with eight exclusive function keys, plus 15 dual function Intelli-keys for multimedia, Internet and programmable functions.

Features

Most of the keyboards that we tested were feature-rich, but the ones that really stood out were the Microsoft Internet Keyboard Pro, Logitech Deluxe 104 and the Logitech cordless freedom navigator. The Microsoft Internet Keyboard Pro offers 19 time saving hot keys and a pair of USB ports. It features two USB ports that allow users to easily plug USB devices, such as scanners and game controllers, directly into the keyboard, eliminating the need to reach behind the PC to swap peripherals. Internet hot keys allow users with Internet access to launch a browser and surf the Web directly from the keyboard. There are Internet, e-mail and multimedia hot-keys. In the Logitech Cordless Freedom Navigator there are three sets of small, rubberised keys to access/control your CD/DVD playback, open your browser, and put your PC into standby mode. The Logitech system works on radio frequencies, therefore it is non-directional. This saves you from the worry of pointing the device at the sensor in order to use it. Logitech has included an automatic 'sleep mode' feature to preserve battery power while the units aren't in active use.

Microsoft Internet Keyboard



Samsung SDL1500: Value for your money



Value for money

The **Samsung SDL1500** gives you great value for money because though the keyboard does not include features that are found in the high-end keyboards, it still provides you with the normal features that a SoHo user would require. The same goes for the Acer Acufeel, which is also very competitively priced and is a great choice for the value-minded consumer. Logitech deluxe 104 provides you with one-touch Internet access and a space-saving design. The keys feel very comfortable. The gently curved palm rest provides adequate wrist support and can be detached for extra desk space. The Logitech Deluxe 104 keyboard is one of the very economical keyboards around.

SCORE BOARD Specifications

Stroking the Keys

Manufacturer	Model name	Interface	Contact	E-mail	Phone	Price (Rs)	Rating
Acer	Acufeel	PS/2	Micro Masters	farr@bom.vsnl.net.in	022-3880597	300	B
Logitech	Cordless Freedom Navigator	USB	Rashi Peripherals	ho@rptechindia.com	022-8260258	7,750	A-
Logitech	Deluxe 104	PS/2	Rashi Peripherals	ho@rptechindia.com	022-8260258	600	B
Maple	Internet media keyboard [MCK 2000]	PS/2	Selathaar Industries	marketing@maple.cu.in	044-8252275	775	B-
Maple	Internet multimedia keyboard [MCK 800]	PS/2	Selathaar Industries	marketing@maple.cu.in	044-8252275	1,100	B-
Maple	Multimedia keyboard Pro [EKB 804]	PS/2	Selathaar Industries	marketing@maple.cu.in	044-8252275	1,800	B
Maple	Universal keyboard [MCK 500]	PS/2	Selathaar Industries	marketing@maple.cu.in	044-8252275	475	B-
Maple	Eagletouch [MCK 800 01]	PS/2	Selathaar Industries	marketing@maple.cu.in	044-8252275	1,500	B
Microsoft	Internet keyboard pro	USB	Mnemonic Systems	mnemonic@vsnl.com	022-8010871	3,000	B
Samsung	sdl1500	PS/2	Micro Masters	farr@bom.vsnl.net.in	022-3880597	500	B+
Typhoon	Slim Internet keyboard	PS/2	Hitech computers	bom@hitechit.com	022-4914642	900	B-

Tablet and Pens

Tablets are hard, plastic devices that look like mouse pads and come in a variety of sizes. A tablet comes with a pen-shaped stylus, which you can use to draw on the tablet. Many tablets are pressure-sensitive, which means that when you press hard on the tablet, you will see the effects of the extra pressure onscreen.

For example, if you were drawing a line, for example, you would see it get darker by pressing harder on the tablet. People who work with a lot of graphics usually use high precision tablets. With tablets, a digital imaging artist can draw things that would be very difficult to draw with a mouse. Some tablets even detect the angle of the pen, thus allowing users to change the thickness of the line drawn by simply tilting the pen. If you are regularly working with Adobe Photoshop, then you know that you can easily create accurate paths with a tablet. You may take some time getting used to a tablet, but once you do, it is much faster and smoother.

CONCLUSION

MICE

The **Logitech Cordless MouseMan Wheel** is a good choice if price is not an issue. With the freedom of not being tied down by wires, the Logitech Cordless MouseMan features very good accuracy and an impressive set of features that can be configured through the driver. This mouse is ideally suited for the power user who is heavily into graphics, gaming and in-house presentations. For the value-conscious, the **Maple Eagle** mouse is a great choice because it is good enough for normal Windows use. Though the build quality is pretty average, it offers good value for money.



Logitech Cordless Mouseman

KEYBOARDS

The **Logitech Cordless Freedom Navigator** is a good choice if price is not an issue. This keyboard-and-mouse combo is ideal for corporate presentations. Microsoft Internet Keyboard Pro is also a good choice because it comes with a lot of shortcut keys and there are two built-in USB ports. For the value-conscious user, the **Samsung SDL1500** is a great choice. It provides you with excellent build quality, and though it does not include fancy features provided by high-end keyboards, its affordable price makes it a great choice.



Logitech Cordless Freedom Navigator

1/2 page H. AD

In Black & White



IN TEST: 10 LASER PRINTERS

Photograph: Rahul Sharma

A new breed of laser printers offers great print quality at lower prices. Are you set to utilise the laser advantage?

MENLYN NORONHA and SAMEER TEWATIA

Please don't rush out and buy a laser printer. If you are looking for a cheap solution for colour printing, if you intend to use your printer only occasionally, or if speed is not of the essence and quality is low on your priority list, we advise you to look elsewhere.

On the other hand, if you want impressive quality printouts and need to print thousands of pages in a month, you've come to the right place. The laser printer is a reliable workhorse that not only offers amazing speeds but also extremely low costs per page printed.

Laser printers have long been the mainstay of huge corporations and medium-level organisations because of their work capacity and output quality. Now they are turning out to be a feasible alternative even if you are a small office owner or work from home, with considerably lower prices and a wider range of options to choose from.

While inkjets offer a clear advantage price-wise, lasers continue to have the upper hand when it comes to print quality. The technology they use ensures highly accurate printouts that are completely dry, so there's no scope for smudging. These printouts are water-resistant and will last longer than inkjet printouts without fading.

Lasers also have an edge over inkjets when it comes to handling non-regular media such as envelopes, cards, labels and tags. And though consumables are expensive, they are worth it—a single toner cartridge has the capacity of printing anywhere between 3,000 and 10,000 pages of excellent quality text.

Keeping the needs of SoHo users in mind, only black-and-white laser printers costing less than Rs 50,000 have been tested. These included 10 printers from six companies. Canon and Xerox were not able to participate, as they are on the verge of launching a new laser line-up, and they didn't want to send models that would be discontinued within a month's time.

Speed

When talking about laser printers, the first thing you generally think about is speed, especially if

you need to print large volumes and/or are sharing the printer over a network. If the printer is not fast, you'd end up wasting a lot of time just waiting for your documents to print and probably hold up the prints fired by other users on the network.

The fastest printer that we received was the **Lexmark Optra M412**, which was able to print text at a splendid rate of 16.61 prints per minute (ppm). This printer had the most robust build compared to the others in the comparison test, that would give the printer a sturdy paper path.

The first runner-up was Hewlett-Packard's LaserJet 1220Se. This one was able to print the text document at the rate of 14.1 ppm. The next printer that came close was Hewlett-Packard's LaserJet 1200, with a speed of 13.5 ppm.

This was surprising as we were expecting both the Hewlett-Packard models to achieve almost the same score as they belong to the same 1200 series of printers and use the same print engine. The only difference between these printers is that the LaserJet 1220Se comes with the scanning assembly as a standard part and the LaserJet 1200 doesn't. Other printers that were able to come close to these scores were the Samsung ML 6060N and the Wipro Laser 1500 that scored a speed of 11.89 ppm and 11.96 ppm, respectively.

In printing the vector images, the **Lexmark Optra M412** again took the overall position by printing 13.44 copies of prints in a minute. This was a very crucial test, and most of the printers were either unable to print this document or started to spool the print for more than 1 hour. This could be because the printers were not PostScript enabled or the drivers supplied with these printers did not contain support for PostScript printing.

The printers that were able to print these documents were the Lexmark M412 that was able to print the document the fastest, the Hewlett-Packard LaserJet 1200, the Hewlett-Packard LaserJet 1220Se.

The Epson EPL 5800 and the Epson EPL 5700L weren't able to print the exact image. That means the printer first spooled the entire document before printing the vector image. But unlike the other printers, the EPL 5700L printer was not able to continue with printing. After printing the first page, it again started the entire spooling process for the second page.

This definitely was not practical, as this would take a long time to print a desired number of pages. The Epson EPL 5800 was able to take 6.90 prints in a minute, but was not able to print the exact image that was submitted for printing. Both the Hewlett-Packard printers did well and were able to print the vector images with ease but not as fast as the Lexmark Optra M412.

The Hewlett-Packard LaserJet 1220Se was able to print 7.40 prints of the vector printout in a minute, in contrast to the Hewlett-Packard LaserJet 1200 that was able to take 6.84 prints in the same amount of time.

Next, we logged the time taken to print images. There wasn't much difference with regard to the text print timings. The only difference noticed was the printer's spooling time that was more for image prints, since the file size of images is greater than text files.

Here too the fastest was the **Lexmark Optra M412**, which took 15.82 prints in a minute. The printer that came second was the Hewlett-Packard LaserJet 1220Se, with 13.39 copies of the image in a minute; and the Hewlett-Packard LaserJet 1200 that was able to print 12.05 copies in a minute. These

HP Laserjet 1200: Gives good speeds



TEST PROCESS

We evaluated each printer's performance on two basic criteria: print speed and image quality. To ascertain the print speed we logged the time taken to print

1. A sample document file consisting of five sample letters, each containing text and a graphical logo, printed in black and white and greyscale mode.
2. A text document prepared in Microsoft Word. A 100 copies of this page were fired.
3. A page containing vector images (100 copies printed). The file had a full bleed size and a thumbnail-sized vector image.
4. A document containing an image, which was printed in normal mode (see image by the side).

Similar documents were used to ascertain the image quality both in terms of text reproduction as well as replication of image and printing in variable shades of grey. We also



checked for quality in the vector image.

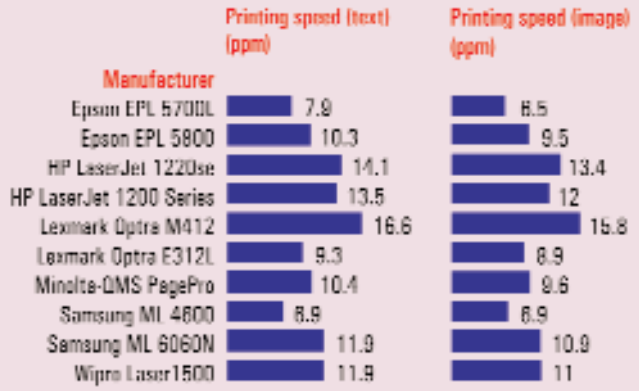
Points were also awarded for other characteristics such as sturdy build quality, thorough documentation, bundled software, number of paper trays, transparency printing, dual-sided printing, economy mode support, postscript printing, etc.

Find it on digit interactive

More Info on the test process and the products tested, check out **Mindware**

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The page per minute (ppm) was arrived at by taking the average of the scores obtained in printing the text and image document

printers were followed by the Wipro Laser 1500, capable of printing 11.01 copies of the image in a minute. The Samsung ML 6060N wasn't able to keep up, printing only 10.85 prints in a minute. The Epson range of printers fared quite badly here. The EPL 5800 was able to print 9.52 copies of the image in a minute, and the Minolta PagePro 1100 gave 9.59 prints a minute.

The printer that stood out, as far as speed goes, was undeniably the **Lexmark Optra M412**, with the HPs following close behind.

Image quality

Graphics image: The Lexmark OptraE312 printer was able to easily replicate details present in the image. The Epson EPL 5700L too was able to bring out similar image quality as the Lexmark, but for the horizontal stripes that were made by the drum of the printer. The printer, when delivered to us for testing, was not in working condition and needed to be serviced by a technician before we actually ran the tests.

The Hewlett-Packard range of printers were able to capture details in all other aspects of the image such as the background, the wrinkles on the face, the folds on the sheet, but when it came to the details of the hair, the printer was not able to replicate the image to its full extent. The Epson EPL 5800 printed the image right but the contrast level in the print was too high as compared to the Epson EPL 5700L.

The Minolta QMS PagePro 1100 printed the image better than the Epson EPL 5800. There was less banding but here too the contrast level in the printout was higher, which was not acceptable. The Wipro Laser 1500 did just the opposite; here the brightness levels in the prints were higher. This proved bad for the print quality, as the printer was not able to give details in the image.

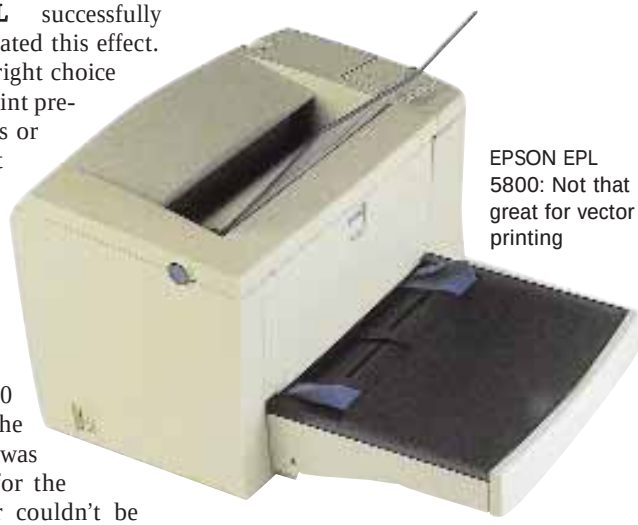
We also looked out for the ability of the printer to convert the image's colour to greyscale with sufficient variation to represent colours. **The Lexmark Optra E312L** successfully replicated this effect. This printer would be a right choice for people who need to print previews of graphical images or photographs without wasting time and resources.

Vector image: Out of the 10 printers that we received, only five were capable of printing the vector images perfectly.

The Epson EPL 5800 printed the image but the middle part of the image was totally blanked out. So for the quality test, this printer couldn't be included. The printer that excelled in this particular test was the **Hewlett-Packard LaserJet 1220Se** and **LaserJet 1200**. These printers were able to successfully replicate both the full bleed size image and the thumbnail size image with proper details in both the images.

The Lexmark Optra M412 too printed the vector image but could not properly define the colours. But in terms of the details in the image the printer betters the Epson EPL 5700L.

The Epson EPL couldn't replicate colours, and there was a drop in the quality of the image in the thumbnail-size image. To add to these grievances, there were patches throughout the printout due to scratches on the printer drum. The



EPSON EPL 5800: Not that great for vector printing

Paper Jams

Like inkjet printers, even laser printers are prone to paper jams. This problem usually occurs in heavily used printers. It's mainly due to the rollers in the paper path getting worn out. When new, these rollers that are generally made of rubber contain a certain amount of grip that enable them to hold the paper and pass it forward, but after sometime these rollers wear out, leading to paper jams. Jamming problems may also arise from the dust that collects on the paper path sensors. When a paper passes through the paper path in the printer assembly, the sensors send out signals to other sensors present in the paper path, to tell them the location of the paper. Due to accumulation of dust on these sensors, if even one of the sensors is not able to give proper paper location, the printer might experience paper jams.

Recovering from paper jams

First pull out the paper tray and look into the assembly for jammed paper. If you see jammed paper, gently pull it out and reinsert the paper trays. If you don't see jammed paper, open the back door of the printer. If you see jammed paper around here, gently pull it out and close the door. Else, open the top door and pull out the toner cartridge. Look for paper in the paper path around the fuser. If you see jammed paper, pull it out gently and reinsert the ink cartridge. Extreme caution needs to be exercised—if you try to pull out the paper violently, part of the paper might tear and get stuck in the fuser assembly. If you don't see jammed paper in any of the above mentioned areas, it would make more sense to reinsert the toner cartridge and call a professional.

Refilled Cartridges

Trying to save that extra money by getting your toner cartridge refilled? Think twice! Is your machine out of warranty? If something goes wrong while using these refilled cartridges, how much will you need to pay for the repairs? Will the printer vendor support a printer that uses refilled cartridges? These are some of the question you would need to answer before you do use refilled cartridges.

We talked to technicians from some leading vendors in the laser printer market, like Hewlett-Packard, Lexmark and Epson about their opinion regarding using refilled cartridges. The answer was unanimous. All the technicians clearly said that they never recommend usage of refilled cartridges but admitted that many users do use refilled cartridges after expiry of warranty period. Here are some reasons why you should not use refilled cartridges:

1. The quality of the toner used is always low or not of the quality generally used in the original cartridge
2. The printer drivers have settings like density of toner, toner composition, etc that are meant for a particular type of toner. So if the quality or type of toner is wrong, print quality would suffer
3. During refilling, it is possible that the cartridge drum might get scratched or damaged, which would affect the smooth working of the printer
4. Improper sealing of the refilled cartridge could cause toner leakage when the printer is in use. If the toner falls into the printer's internals, serious problems could result.
5. These problems may not arise when you use the refilled cartridge for the first time, but they will invariably crop up after a while

Wipro was able to print the vector image but the image was too bright.

The Hewlett-Packard printers were able to print the vector image properly without much hindrances, probably because of the separate drivers provided for PostScript printing.

Text quality: This test brings out the printer's ability to print text using normal fonts in various sizes. This is very useful for users looking out for a midrange laser printer that would be normally used for printing documents, letters, etc. Well, here the **Hewlett-Packard LaserJet 1220Se** and the **LaserJet 1200** bagged the highest rating. The only weakness was found to be with the 1-point size printing where the characters seemed to overlap one another in two of the fonts used.

The Wipro Laser 1500 too recorded the same scores, but here the problem was noticed with 2-point size where the fonts appeared to be a bit hazy. The average scorer in this category is the Lexmark Optra M412, which printed till 3-point size but was a bit hazy at 2-point size and at 1-point size the character were found to be printed one on top of the other. The worst in the section was the Epson EPL 5800, which had lots of flaws in the print. The 2-point size and the 1-point size character actually overlapped each other for two of the font types. The rest of the printers were able to reproduce fonts up to 4-point size easily, but displayed problems with 3-point and 1-point size. The printer that you will need for printing text would be the Hewlett-Packard 1220Se and the LaserJet 1200.



SAMSUNG ML 6060-L: Gave good text output

Features

Apart from speed and image quality, the other factor that makes for a good buy when it comes to laser printers is the presence of features such as the ability to print on different media (transparencies, different paper sizes, envelopes, etc). Are there features that improve print quality or make it easier to work with?

The HP printers head the list when it comes to availability of features. The Hewlett-Packard LaserJet 1220Se (which comes with the scanner assembly as standard equipment) is at the top. The other HP LaserJet 1200 series does have an option for a scanner-cum-copier but this assembly doesn't come as standard equipment. The HP printers come with the separate drivers for PostScript printing, which is of great help while doing vector printing. The Lexmark Optra M412 is the only printer that comes with LCD management display. This display comes in handy for configuring the printer, especially when you use the network interface card.

The Samsung 6060N was the only printer that came with a 10/100 MBPS network interface card that would be useful if you have a small workgroup of machines. The Epson EPL 5800 has 16 MB of memory, upgradable to 256 MB, which is the highest in this category. Almost all the printers came with a 'toner save' feature. The Samsung ML 4600 has the toner saving button on top, which makes it easily accessible. The other printers too have the toner save mode but this has to be enabled via the printer drivers. When the printer is turned on and no tasks are given to it, the printer goes into sleep mode, cutting down on the electricity bills. This is a prominent feature of the Lexmark E312L.

The Samsung ML 6060N had the biggest paper tray—the input tray can hold a whopping 550 sheets of paper. These are some of the features we noticed in the printers. These features were logged and

Using Different Media

Laser printers are popularly used for document printing, but did you know that you could use the same printers to print on different media? A normal laser printer would be able to support printing on various types of media: plain paper, transparencies, card paper, labels, etc. These papers too come in different sizes like A3, A4, A5, B4, B5, ledger, letter, legal, recycled paper, card stock, labels, envelopes etc. Printers may have to be physically adjusted to accept some type of media like envelopes.

Remember that printer manufacturers have their own branded paper types that they recommend for use. Not all printers are compatible with all types of paper. The right place to verify this is the printer's manual, where the manufacturer clearly specifies the type of media the printer can handle. This can help you avoid unwanted headaches. If a certain printer does not support transparencies or label printing and if a person uses this printer to print on such media, he might damage the printer fuser or even the printer mechanism.

SCORE BOARD

Specifications

Laser Printers

Manufacturer	Epson	Epson	Hewlett-Packard	Hewlett-Packard	Lexmark	Lexmark	Minolta_QMS	Samsung	Samsung	Wipro
Model	EPL 5700L	EPL 5800	LaserJet 1220se	LaserJet 1200	Optra M412	Optra E312L	PagePro 1100	ML 4600	ML 6060N	Laser1500
Dealer	Epson Singapore	Epson Singapore	HP India	HP India	T.V.S. Electronics	T.V.S. Electronics	Time Business Machines	Samsung	Samsung	Wipro ePeripherals
Phone	080-5321266	080-5321266	011-6826000	011-6826000	044-2325506	044-2325506	040-3316070	Electronics	Electronics	011-6397418
Fax	080-5581799	080-5581799	011-6183523	011-6183523	044-2327577	044-2327577	040-6508067	011-6322517	011-6322517	011-6397393
Price	Rs 16,900 + taxes	Rs 34,000 + taxes	Rs 37,680	Rs 25,655	Rs 42,995 + taxes	Rs 19,995 + taxes	Rs 18,500 + taxes	Rs 17,500	Rs 46,000	Rs 25,700
E-mail	sheetal@eid.epson.co.in	sheetal@eid.epson.co.in	tarunjeet_sarao@hp.com	tarunjeet_sarao@hp.com	ap.aditya@tbg.tvse.co.in	ap.aditya@tbg.tvse.co.in	info@timebm.com	marketing@sam-sungindia.com	marketing@sam-sungindia.com	helpdesk.mum-bai@wepindia.com
Web site	www.epson.co.in	www.epson.co.in	www.hpindia.com	www.hpindia.com	www.tvse.com	www.tvse.com	www.timebm.com	www.samsungin-dia.com	www.samsungin-dia.com	www.wepindia.com
SPECIFICATIONS										
Printing technology	Laser	Laser	LaserJet	LaserJet	Laser	Laser	Electrophotographic	Laser	Laser	Electrophotographic
Resolution	600x600	1200x600	1200x1200	1200x1200	600x600	600x600	1200x600	1200x600	1200x1200	600x600
Processor	TMP95C001	NA	90 MHz Motorola	90 MHz Motorola	133 MHz RISC	Toshiba 67 MHz	75 MHz Powerpc	66 MHz RISC	66 MHz RISC	MB80833 66 MHz
Interface	Parallel/USB	Parallel/USB	Parallel/USB	Parallel/USB	Parallel/USB	Parallel/USB	Parallel/USB	Parallel/USB	Parallel/USB	Parrellel / USB
Input buffer	2 MB (Upgradable to 13 MB)	16 MB (Upgradable 256 MB)	8 MB (Upgradable 72 MB)	8 MB (upgradable 72 MB)	4 MB (Upgradeable 132 MB)	2 MB (Upgradable 66 MB)	4 MB (expandable to 132 MB)	4 MB	16 MB (Upgradable to 80 MB)	2 MB
Paper capacity	100 sheets	150 sheets	250 sheets	250 sheets	250 sheets	150 sheets	150 sheets	150 sheets	550 sheets	250 sheets
Toner Price (Rs)	4,600	4,600	3,600	3,600	6,500	3,000	3,500	2,950	6,300	3,900
Physicial Dimensions (WxDxH) in mm	397x463x251	387x475x388	415x487x417	415x487x252	405x435x314	345x365x224	361x222x260	329x224x343	360x409x289	360x370x235
Weight (kg)	7.5	7	11.6	9.1	14.8	7	7	6.2	10.5	9.5
Other Accessories	--	--	Scanner cum Copier	--	Mark Vision for Network Admin	Mark Vision for Network Admin	--	--	--	--
TEST SCORES										
Printing speed (text) (ppm)	7.9	10.3	14.1	13.5	16.6	9.3	10.4	6.9	11.9	11.9
Printing speed (image) (ppm)	6.5	9.5	13.4	12	15.8	8.9	9.6	6.9	10.9	11
Printing speed (Vector) (ppm)	0	4.3	7.4	6.8	13.4	0	0	0	0	9.6
Quality (text)	Good	Average	Good	Good	Average	Average	Good	Average	Average	Good
Quality (image)	Average	Poor	Good	Good	Poor	Good	Average	Average	Good	Average
Overall Grades	**B+**	**B**	**B+**	**B+**	**A-**	**B+**	**B**	**B+**	**B+**	**B+**

points were also awarded to printers that excelled in characteristics like build quality, thoroughness of documentation, bundled software etc.

Build quality

When buying a printer, you should examine the build quality, especially of the movable components such as the paper tray. Since you would be handling the paper feed tray very often, it will wear out fast if it is flimsy in its build. Also look for any breakable flaps and examine the rollers in the paper path and the print assembly as shoddy build in this area can cause paper jams.

The Epson EPL 5700 L and the Epson 5800 were strongly built but their lacklustre performance was the biggest disappointment. The Samsung ML 6060 N and the Lexmark Optra M412 had the best overall build quality.

The Lexmark Optra E312L and the Wipro Laser 1500 were also pretty strongly built. The Minolta had a very fragile cover that could break if not handled carefully. The HP LaserJet 1220 SE and LaserJet 1200 were good in performance but proved quite fragile.

CONCLUSION

If you need to print only occasionally, an inexpensive and basic inkjet printer would suffice. But if you need the best in terms of speed and performance, you'll definitely need to go in for a laser printer, especially if you need to print a large volume of text documents. A laser printer will print sharper and cleaner text than an inkjet printer—even if it has a lower print resolution than the inkjet. The printer that outshone the others was the **Lexmark Optra M412**.

LEXMARK Optra M412: Great speeds with quality



Minolta QMS Page Pro 1100: Low-cost option



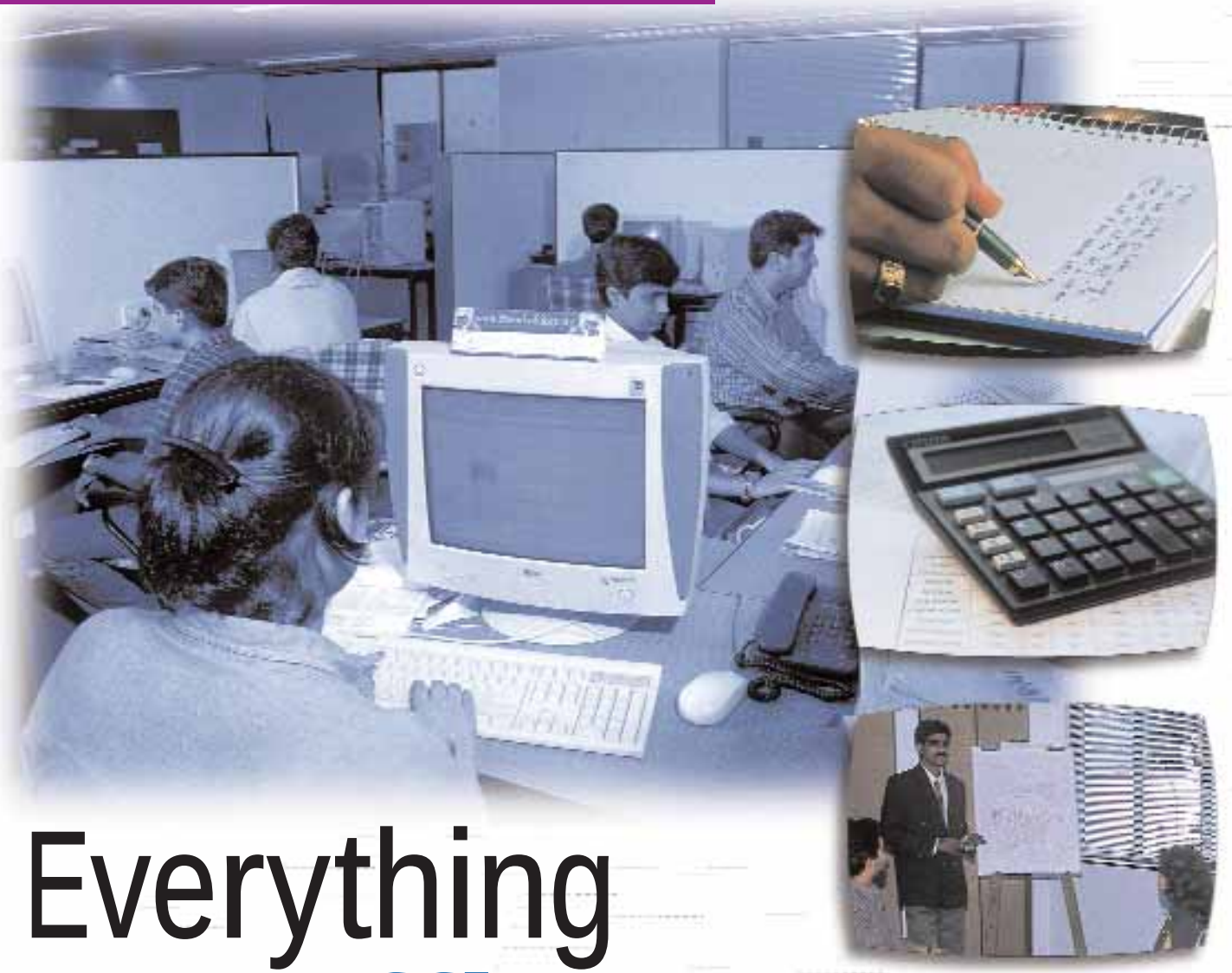
This was not only the fastest printer at 16.61 prints per minute, but it also had the crispness and quality in the prints. But if you consider the price tag, this printer would be more ideal for a workgroup with five or more users connected in a network.

For a home user, the best bet would be the **Minolta QMS PagePro 1100**. The printer is much more affordable, with ample speed and quality. With the facility that incorporates a scanner-cum-copier, the Hewlett-Packard LaserJet 1220Se would be a wise choice for a user who seeks a complete office solution.

1/2 pqge H. AD

IN TEST: 4 OFFICE SUITES

Photograph: Ashesh Shah and Rahul Sharma,
Imaging: Solomon Lewis



Everything Office about it

Office suites undergo version changes and free suites also make their presence felt. Choose the best for your needs

MOHAN KRISHNAN and MITUL MEHTA

You know what's common between an office suite and an operating system? Everyone has one installed on his or her computer. The first software that you normally install after the operating system is the office suite—especially the word processor. Even if you are still caught up in the DOS age, you still have your faithful Wordstar. But there's more to an office suite than a word processor. Your spreadsheet is useful in managing a whole lot of your tabular information or even databases, and you can really impress people with the presentations you create.

The contenders

Among the four office suites for the Windows platform that we tested, Microsoft Office XP doesn't work with Windows 95 now, and if you are planning to use the voice recognition feature, you would need 128 MB RAM. However, it is more feature-rich than the other versions.

TEST PROCESS

When we talk of office suites, we are basically referring to the word processing, spreadsheet and presentation software that most people use. We specifically didn't take into account the database feature, since for home use or normal desktop use, databases aren't that crucial. Since we were testing only these basic components, we called in for the standard version of the software and not the professional or other editions. On the whole, we looked at aspects such as installation, components present, interface, help menu and price.

Word processors: We loaded a test text document in all the word processors and started work on it. Specific aspects that we looked at were the formatting features, the creation of tables, provision for collaboration and revision tools, working with long documents in terms of sections, tables of content and finally the spell-check and grammar features.

Spreadsheet: For testing the spreadsheet, we created a test data that contained alphanumeric, numeric and date fields. We then worked towards formatting that data, performing simple and complex calculations, creating graphs, adding macros, and using some advanced features.

Presentations: For the presentations, we created some slides and added a whole lot of elements to each slide, and finally checked out the slide show. Specific parameters that were tested included the wizards and templates, the kind of formatting, transitions and animations effects that were possible, and whether we could e-mail the presentation across in a compressed format.

In all these tests, we kept a lookout for features that were absent, or were unique. Also, more weightage was given to word processing abilities than the presentation and spreadsheet utilities, since obviously word processors are still the most frequently used component in an office suite.

Lotus SmartSuite Millennium Edition, comprises Word Pro, 1-2-3, Freelance Graphics, Approach and Organizer. The feature list might not be exhaustive, but Lotus still maintains its remarkable ease of use while providing most functions. Software602's 602Pro PC Suite 2000b is available free for download. This suite comes with 602Text, the word processor and 602Tab, the spreadsheet. There's no presentation software; instead there's an image-editing tool. Another free package is StarOffice, which gained popularity after it shipped its free version for the Linux platform.



The integrated interface of StarOffice

The office environment

Installation, integration, ease of use (interface and help features) are aspects that you notice when you look at the office package as a whole.

Installation: Office XP and Lotus SmartSuite have similar installation features and allow you to select the individual components to be installed and also specify whether you want the component to be run from the CD. 602Pro doesn't give any installation options at all, and the only choice you have is whether you want to do a network installation (to run the software from a network server). With StarOffice, you have to necessarily install StarOffice Writer, although you can do away with the other components.

Integration: StarOffice has an integrated interface in that there are no separate icons for each component. Open StarOffice and then click on File > New to open a text document, a spreadsheet, a presentation, or choose from existing templates and let the AutoPilot (the wizard in StarOffice) guide you. StarOffice also allows you to browse your local drives, network and the Internet from the same interface. Such an interface presents an 'all at one place' approach but might look a bit cluttered if you have too many features.

Ease of use: One area where Lotus SmartSuite clearly scores is in its interface and use of workspace. Open any document and you have the bare minimum toolbars. Exercise any option and tools relating to that option line up. Once you are done with them, the tools disappear. You can also right-click any object (say a text box, or an image) and modify all the attributes for that object from a single box. To an extent, Office XP's Task Pane option makes it simpler to use. Then again, the Task Pane does take up a bit of your workspace, so you could end up scrolling horizontally more often than you would care to.

The default toolbars of 602Pro are a bit jarring with all the icons cluttered up and with text in big fonts to explain what the icons mean. Helpful, but hardly anyone working with a word processor would need an explanation that the 'B' icon stands for 'Bold' or that '%' stands for 'Percentage'. Thankfully, you can customise the icons to make them smaller and remove the text.

Help: Context-sensitive help is what we were looking for, and that meant that if we exercise some feature or option and click on the [F1] key, we should get a help option related to the menu. StarOffice is the only one that provided such help, the rest just opened up the Help menu. In addition, StarOffice has a non-intrusive assistant that pops up automatically when you are working with certain commands. While this can be a useful aid initially, it might get irritating once you get used to it. In 602Pro, we got such context-sensitive help with the word processor, but not with the spreadsheet…the favouritism continues! Lotus prompted you to ask a question every time you wanted help—useful if you don't know what you are looking for, but time-consuming if the help you want is just related to a specific feature.

Find it on digit interactive

More Info on the test process and the products tested, check out Mindware

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PROCESSING THE WORDS

You can use your word processor to type a single page document, and at the same time create an entire book in it. Therefore, your wish list from a word processor may differ depending on the actual use you make of it.

Formatting

Except for 602Text, all the other software gave us a number of paragraph formatting features, including auto-correct and auto-format functions. 602Pro didn't have any options for hanging indents or drop-caps and neither were there any widow or orphan control options.

All the software worked differently in terms of retaining formats of copied text. 602Text converted any pasted text to the default formatting of the paragraph, and didn't even retain Web formatting. Word Pro retains the formatting of the paragraph that has been copied and will not take the format of the paragraph where it is being copied.

Word 2002, in spite of its Smart Tag option, was the most troublesome while pasting text. We chose the option Retain Source Formatting, but when we pasted text, the results did not match the source.

The Reveal Formatting option in Word allows you to identify a format based on a style and then select all the paragraphs in the document that match the style at one go. Quite useful when working with lengthy documents if you want to globally change formatting options.

Grammar and spell-check

Only Word Pro and Word 2002 had grammar check functions, and in most of the software, spell-check was not enabled by default. In Word Pro, if you misspell a word, the options relating to it show up as a tiny question mark in the bottom palette. You have to click on the question mark to get the options and people can often miss this. The right-click option of Word is much better in that sense.

Tables

We thought the creation of tables would be simple in all the suites, but 602Text proved us wrong. Try creating a table and the first thing you notice is that by default, cell gridlines aren't drawn. You cannot select rows or columns, or select the table, so to have the gridlines, you have to select all the cells and add the cell gridlines first, before you can get to work. Only Office XP had the feature of drawing a table, and splitting rows and columns using the toolbar. Word Pro had an interesting feature of specifying different gutter width (the distance of the text from the cell boundary). We don't know what exactly this will be used for in a table, but you can definitely make your table look a bit different from the rest.



Collaborative tools in Office XP: Quite informative

Lengthy documents

Section-breaks, column breaks, headers and footers are essential options if you are working on a report or any lengthy document such as a book. 602Pro and StarOffice Writer were disappointing—they don't support portrait and landscape mode within the same document for different sections. Word Pro allows you to create divisions that can behave like a totally different document with different styles, headers, footers, etc, and within divisions you can again have sections that can have different headers and footers. All the suites were similar when it came to creating the table of contents and index based on a defined style.

Collaboration

Word Pro and Word 2002 have a number of collaborative tools that make distributing work among co-authors or revisioners simpler. Both allow you to protect a document for just revisioning purposes (that is, when the revisioner opens the document, the Track Changes option will be set by default), and you can send the document via the default e-mail client to the intended person.

While Word Pro and StarOffice allow you to mark comments along with the tracked changes, the most interesting features come from Word 2002. When you are in the tracking mode, Word 2002 jots down comments on the side about everything you do. So, if you delete text, you get a comment about text being deleted, and if you change formatting (make a word bold), the comments again appear. Quite useful in a collaborative environment, to keep track of the changes that have been made.

Working with 602Text is hardly appealing, and the lack of functions means it still has some way to go before entering the big league. With a number of interesting features, and icons that are quite intuitive and elegant to use, Lotus Word Pro can be quite useful, especially for long documents and reports. But if you want something for a multi-purpose and varied application use, ranging from publishing and collaborative work to simple documents, **Word 2002** scores. Word 2002 tries to increase the intuitive level of the software with some excellent concepts, and enhances quite a number of existing features.

Rich with Text

We checked out the suites for their saving options and any compatibility issues they had. Specifically, we checked for compatibility with respect to opening a Word 2002 document. Except for 602Pro, the rest of the suites managed that with ease. However. all software had problems with the tables created in Word that had split cells. In case you think compatibility problems might arise, the safest bet is to save it in Rich Text Format (RTF).

Another aspect we looked at was the Save for Web feature. When we saved the document created in StarOffice Writer with pre-defined styles to an HTML format, and opened it in Internet Explorer, we found that none of the styles were rendered properly and in some cases some of the heading styles had text missing. Even with other software recognition of styles was a problem area. Otherwise, both StarOffice Writer and 602Text have embedded support for HTML, and in these you can even insert scripts or add tags.

SPREADING THE SPREADS

For many, the spreadsheet might just be a replacement for a calculator, but if you want, you can really do some amazing statistical stuff, generate fabulous reports and charts, or create complicated tables.

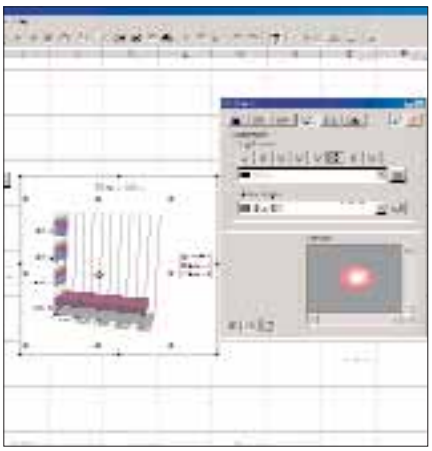
Formatting

Working with cells and cell properties can be really crazy at times. Take StarOffice Calc for example. Here, every time you press the [Delete] key to remove the contents of a cell, you get a confirmation box asking whether you want to delete the values, the formatting, the formulas, etc, which can get a bit irritating. It's a nice feature if you are using a number of calculations and want to keep the value but delete the formula. There's a workaround by using the [Shift] + [Delete] key, but it's not the best of methods. 602Tab, like its word processor, is quite basic and you cannot merge cells if you want, nor can you experiment with any text orientation.

Lotus 1-2-3 is quite good in that respect and gives you a number of text orientation features that can be quite useful if you are creating a spreadsheet in portrait mode with a number of columns but limited rows. In 1-2-3, every cell is taken to be a range, and therefore you have to work with range properties for aspects such as merging or splitting cells. You could also create text blocks, which may help if you want to mix text along with cells. It also comes with a neat handle that lets you move the cell contents along.

We found Excel still problematic when it comes to copy-pasting cells. Copy a cell's contents from the cell instead of the status bar, perform a number of operations, and then try to paste the contents, and you will find that Excel has lost the copied data from the system clipboard. The same data is still available in the Office clipboard and you can retrieve it from there, but that's a tedious thing to do.

1-2-3 and Excel 2002 were the only ones that had Indian currency also in the list, although it was listed as INR (the global notation) and not rupees. In Excel, the currency list was sorted by just the global notation, whereas 1-2-3 had the country name also, thus making life easier for you.



Enjoy the 3D effects in StarOffice

Calculations

All the spreadsheet packages except 602Tab were intuitive when it came to the automatic sum option. They assumed that the cells above or by the side are what you want to work with. No such luck with 602Tab. Excel 2002 has added to the list in the Auto Sum option. You now have a drop-down list that features other variables such as Average.

StarOffice Calc and Excel 2002 came with options to trace errors. StarOffice Calc calls it the Detective option. This feature allows you to trace the dependencies to a formula. Excel 2002 has the Formula Audit feature that traces dependencies as well as precedents for each cell.

These features are useful if you work with huge amounts of data, and have to resolve errors in formulae or instances of circular references.

An added function in Excel 2002 is the Watch Window feature that allows you to specify a cell that will be constantly watched even while you scroll across the sheet. The value of the cell is shown in the Watch Window, and you automatically come to know if any changes have been made to it.

Graphs

StarOffice Calc is simply the best when it comes to graphs. Because of its tight integration with the drawing tools, you can have a variety of graphs and apply gradients and transparency, apart from a whole lot of 3D effects such as specifying material source, the geometry of the image, lighting and texture. With 1-2-3 and Excel 2002, you just had the standard 2D and 3D variants and you add some shadows and gradients.

Macros and Forms

If you are looking at performing a series of similar calculations over a range of similar cells, using a macro might be a good idea. With StarOffice Calc and Excel 2002, creating this is quite simple—just use the record button. In 1-2-3, the macros options are hidden under the Edit menu. Creation of forms and drop-down lists without any use of scripts is only possible in Excel 2002. 1-2-3 also allows you to do the same, though you have to learn the Lotus Scripting language for this.

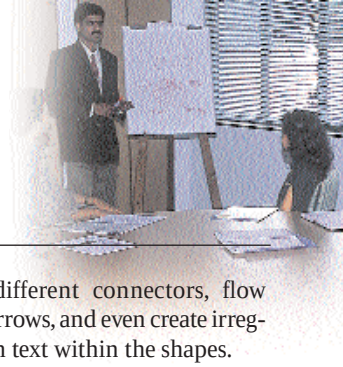
On the whole, 1-2-3 still maintains the simplicity that it's known for, but this is at the cost of features. Most of the features that you normally need are present in this software, but advanced features such as provision for pivot tables and reporting tools are missing. Even StarOffice Calc suffers from the same problem, though it is great for graphs.

Excel 2002 scores over the other contenders because of its feature-list and increased ease of use with the Smart Tags and Task Pane (try to fill a numbered series and see how the Smart Tags help you).

Analysing your Data

The spreadsheet utilities come with some extra features that are normally quite useful for analysing data in a statistical manner. If you are into sales and marketing, then goal-seek, scenario builder or trend analysis is exactly what you are looking for. 1-2-3 comes with a 'What-if' feature where you can see and analyse changes in projections that get reflected with differing data.

Excel allows you to create different scenarios or specify a goal and work backward towards attaining the goal. Getting a grouped data analysis is much simpler with the Pivot Table and Pivot Chart option. StarOffice too has the goal-seek option. Other advanced features that you will find in these suites are options for validating data and grouping, sorting and consolidating data. Strangely enough, in 1-2-3, some of the more analytical, statistical functions such as the cross-tabs and quick reports are inserted as a link to the database component (Lotus Approach), while other tools like matrix and inverse matrix that are normally used only by mathematicians are present as a feature.



Sometimes, too much can also mean too problematic. With the number of features that presentation software have these days, it's a problem selecting the right presentation for your needs.

Wizard and templates

All the presentation packages allow you to start off with a wizard where you can specify the layouts and themes. With StarOffice Impress, the wizard takes you through the whole gamut of operations—select templates, specify page type, the output medium, indicate the transition—and your slide is ready. We didn't particularly like the templates that much—the colour schemes seemed a bit too garish. An interesting feature with Lotus is that you even have templates for the content of the slides. Select one and Freelance Graphics auto-generates content for multiple slides (or pages) based on the options related to the template. For instance, if you choose Competitor Analysis as the content topic, then you have options for pages with content such as Background, Human Resource Strategy, Anticipated Moves, etc.

Formatting

What we tried to do was select a template and then try customising the template to our needs. In StarOffice Impress, if you have to change the background objects, you need to enter the Background view (located at the bottom pane of the screen and easy to miss) and enter the Drawing mode. In Freelance Graphics, the same thing is made quite simple by using the Edit > Backdrop option. With PowerPoint 2002, you don't have too much of that problem either, clicking on an object allows you to select it.



Working with content templates in Lotus

An interesting feature Impress sports is the Bezier tool, which is normally only present in graphics packages. This can be quite useful for creating curved paths with text flowing around it. Freelance Graphics also presents you with a number of graphical tools to add different connectors, flow charts, points, arrows, and even create irregular shapes with text within the shapes.

Slide Show

All the presentation software had easy-to-use slide show options, with the facility to add notes or to use a pen. Apart from a slide show, you could even have output in the form of handouts if you desire. Impress even allows you to edit while the presentation was on. PowerPoint has a live broadcast feature, though we didn't actually check out how this feature works.

Freelance Graphics treats each line, image or clipart as a separate object. Therefore, you can modify the properties for each object (say a bulleted text) and this greatly helps in sequencing (selecting which object will be displayed first) during a presentation. For instance, just right-click on a particular object (say a bulleted list), select the properties for that object, and specify whether you want the object displayed with the page or after a mouse-click or after a certain time duration. Add other aspects such as the transition effect you want when the image appears or even add the action that has to be performed when the object is clicked on (for instance, you can specify that a movie be played, or the next slide be presented, etc). Not just that, you even have content advice related to the content template that you have created. If this isn't spoon-feeding, what is?

PowerPoint 2002 leaves the rest far behind when it comes to the task of creating slide shows and adding custom animation. Just right-click on any object (text, image, etc) and you get all the options you could ever want. You can specify animation characteristics, effects, sequence the objects on the page, and all with Auto Preview (if you have the option checked). The number of animation effects, templates, slide designs and layouts have all increased considerably. Also, with the same right-click option you can specify a certain action for the object, if clicked or on a mouseover. The action you define can, for instance, be playing a sound or running a program.

In terms of sheer features, there's nothing that can beat **PowerPoint 2002**. Freelance Graphics, like WordPro and 1-2-3, offers more simplicity and optimal utilisation of workspace, so if you like your presentations simple, then definitely check these out.

Pack and Go

Alright! You've just created the best sales report ever with high-quality images and graphs. But how do you send this huge file over to your branch manager based in a different location, and also ensure that there are no problems with the fonts and image display? That's why all presentation suites come with a 'packing the presentation' option.

Impress allows you to split your file into different file sizes (based on the output medium). So, you can split the file into 1.44-MB sizes if you are transferring it via floppy. Impress also comes with an option to keep placeholders instead of the actual image or text. This can be useful in a collaborative work environment where you are initially discussing the layout of the presentation without using the actual content or images.

PowerPoint 2002 comes with a number of options for packing your presentations. For images, you can specify compression ratios and resolution and also choose whether to embed the fonts into the file (so as to not cause a font mismatch if the person viewing the file doesn't have these fonts installed on his system).

Also, you can just use the Send To option to send the file as an attachment to an e-mail recipient. Freelance Graphics's Save and Go feature allows you to compress the file and save it in different output mediums, and it also allows you to insert images as a link (that means the actual image isn't there, it's just a placeholder) instead of embedding the image. This is again useful for reducing the file size.

SCORE BOARD Specifications

The Office Facts

Details	602Pro PC Suite 2000b	Lotus SmartSuite Millenium 9.6	Microsoft Ofice XP (Standard)	StarOffice 5.2
Contact Address	www.software602.com	Lotus Development Industrial Corporation, Phone: 2322024, Fax : 2322026 E-mail: india@lotus.com	Microsoft (India), Phone: 011-6294600, E-mail: undarb@microsoft.com, Web site: www.microsoft.com	www.staroffice.com
Price	Free	Rs 5,500	Rs 20,500	Free
Components	602Text, 602Tab, 602Photo	Word Pro, 1-2-3, Freelance Graphics, Lotus Approach, Lotus Organizer	Word 2002, Excel 2002, PowerPoint 2002, Outlook 2002	StarOffice Writer, StarOffice Calc, StarOffice Impress, StarOffice Draw, StarOffice Mail, Schedule
Installation Size (Typical)	49 MB	279 MB	219 MB	170 MB
Install customisation	Fully customisable	Fully customisable	Fully customisable	Have to install StarWriter
Help	Context-sensitive in 602Text only	Ask the expert for guidance	Non context-sensitive, but uses Smart Tags	Context-sensitive
Word Processor	602Text	Word Pro	Word 2002	StarOffice Writer
Grammar Check	No	Yes	Yes	No
Different portrait and landscape layouts	No	Yes	Yes	No
Tables	Basic features	Provides cell-wrapping options in table	Can draw table, add diagnol lines	Basic features
Spreadsheet	602Tab	1-2-3	Excel 2002	StarOffice Calc
Indian currency support	No	Support for INR	Support for INR	No
Charts	Basic 2D and 3D	2D and 3D	2D and 3D	Advanced lighting and texture features
Error checking	No	Tracing	Tracing Dependents and Precedents	Detective option
Presentation	Not present	Freelance Graphics	PowerPoint 2002	StarOffice Impress
Wizards and templates	NA	Provision of content templates	Quite extensive templates	Entirely wizard driven
Transition and Effects	NA	Customisable sequencing of objects	Task Pane provides number of transitions and animation effects	Normal transition and effects
Slide Show	NA	Rehearse Timings, add pointers	Narration, Add Buttons, Live Broadcast	Edit presentations live
Verdict	B-	A-	A	B+

CONCLUSION

What do you want in an office suite? That's the most important question that, you, as a user have to answer. With each succeeding version, developers are packing in more and more features in the suite and it is likely that you might not even use half of these features. **Microsoft Office XP** definitely scores over the other contenders in the sheer number of features that are offered. With the effective use of the Task Pane, there is the additional dimension of simplicity too. But remember that these features come at a price. The standard version of Office XP costs Rs 20,500 and that's nearly four times the price of Lotus SmartSuite Millennium Edition. And if you measure this against 602Pro and StarOffice that are free, you end up with quite an uneven comparison in terms of price. For that matter, even the Professional and Premium Editions of Microsoft Office 2000 are priced lesser than Office XP (ranging from Rs 15,000 to Rs 19,000), so you can also get Access 2000, FrontPage, Publisher and other development tools for that price. The only real lure of Office XP over its earlier versions would be in areas of collaborative work when the document passes among many reviewers or when you are trying to integrate the Web and your office applications. For normal home use that just involves simple documentation, basic calculations and presentations, a free suite such as StarOffice is more sensible and doesn't have major compatibility issues.



Microsoft Office XP: Need we add more?

Photograph: Rahul Sharma, Imaging: Neeta Wadiker

IN TEST: 9 PERSONAL INFORMATION MANAGERS

A well-ordered life

Juggling and keeping track of your schedules, e-mails and appointments is a snap with personal information managers (PIMs)

ROSSI FERNANDES

Think of it as a personal secretary. Only this one doesn't take long lunch breaks or keep pestering you for a raise. A personal information manager (PIM) lets you schedule appointments, remember birthdays, plan workweeks, send e-mail and make phone calls—all from the same place.

A PIM is a small software that you can run on your system to enjoy the functionality of a daily planner, an address book, a calendar, an alarm clock, a phone diary, a fax machine and even an e-mail client!

We've put together nine PIMs available in the market to check which one can make life easiest for you.

TEST PROCESS

Features are the best indicators of how good a PIM is. So testing the PIMs largely involved searching for and scanning features that would help one maximise the benefits of information management. Besides features, the PIMS were also evaluated for ease of use. A very important aspect of this is integration. The PIM should be well integrated with the operating system, the e-mail client and phone dialler it uses, and also with other applications and handheld devices.

The aim of the PIM is to make life easier for a busy person, through uncluttered menus, intuitive icons and helpful documentation. So, PIMs

with a user-friendly interface and adequate help and documentation scored brownie points over others. And of course, the price of the software was compared with the functionality to determine whether it was worth spending money on.

The overall score was based on three parameters—features, ease of use and price. All three were given equal weightage.

Scheduler

A scheduler is one of the most important features in a PIM. It helps you plan your day and keep track of which tasks need to be completed and by when. A good scheduler used well can streamline work and make life easier.

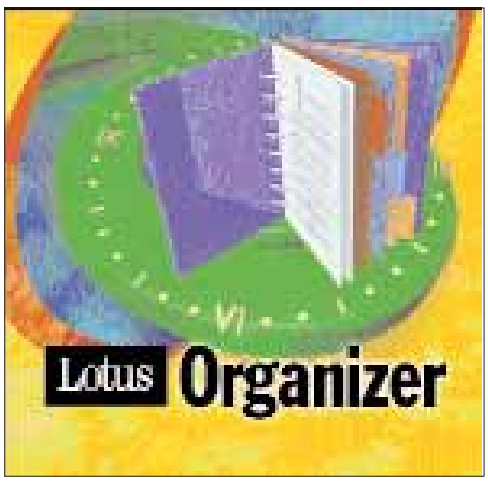
The schedulers of most of the PIMs were feature-filled, although many failed to make use of their interface to show off their various features.

Lotus Organizer was good in this respect. It has a user-friendly feel with an interface that looks like a diary and is really convenient if you plan to use your PIM for scheduling work and tasks throughout the day.

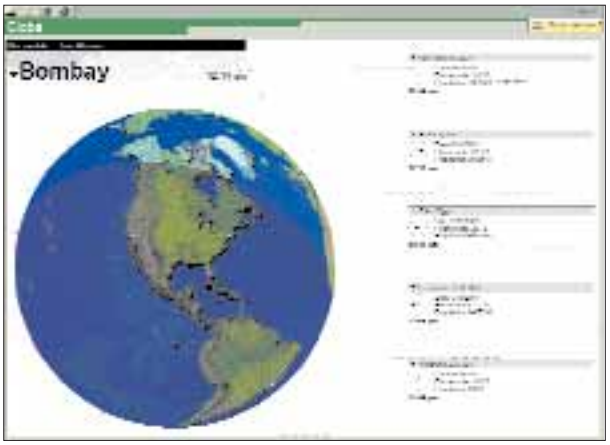
Microsoft Outlook was better. It comes with a sleek looking calendar that has views of the current and future months. To add or edit tasks, simply click on the date to view the time-slots of the entire day, along with those of that particular month. Selecting a particular time opens up a window that allows you to do a range of things, such as setting a reminder alarm or scheduling work with your other mates.

RedBox Organizer follows in the path of these two, although its scheduler isn't as detailed as that of Microsoft Outlook. Corel, on the other hand, has a simple scheduler with basic functions, which makes it good for home users who don't need too much of customisation and features packed into their PIM.

Day Timer's Scheduler isn't as feature-packed as Microsoft Outlook, and the interface isn't too interesting either. Also, everything has to be done manually by going to menus and selecting options to activate features. So when it comes to schedulers, **Microsoft Outlook** and **RedBox Organizer** come out tops. Lotus Organizer is great too but a little bit of additional features would be welcome.



Lotus Organizer: Good feature-set



Surf the globe with RedBox Organizer

Reminders

Just like a secretary reminds the boss about important appointments and other meetings, reminders ring an alarm or send an alert to tell you when you need to do a particular task.

With Microsoft Outlook, you can set alerts that pop up at a particular time. Or you can use reminder notes that can be dragged and dropped into any other application. In RedBox, the reminders section allows you to get a bird's eye view of the reminders and alerts when you load the program onto the main menu. Lotus Organizer's reminder can be set by double-clicking on a particular time in the scheduler, which in turn brings up a whole lot of other features. At the other end of the spectrum are software like Cute Organizer and Epoch Organizer, which have not concentrated on this feature.

Microsoft Outlook once again wins first place. It allows you to set time, along with other customisable features, while the others have a simple alert option that you can set on your PC.

Address Book

To be able to use the PIM to the fullest, you should be able to keep a database of your contacts within it. If you want to call a particular contact, or e-mail him, you should be able to start the particular application such as a phone dialler or a mail client just by clicking on the name. Sorting and categorising should also be available in a good PIM. If groups can be made and mailing lists can be created, that's another plus point.

The address book feature has been well created and integrated into Microsoft Outlook. You can simply sit down and add a whole list of entries as standalone contacts, or you can also set up a small mailing or distribution list that contains a list of people. The contacts are listed alphabetically. A large number of other details can be added besides the individual's contact information. You can switch from one view to another by clicking on the various tabs. Filtering and sorting of contacts is also possible by right-clicking, which brings down the menu that

Find it on digit interactive
More Info on the test process and the products tested, check out Mindware

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Electronic Assistant: Not so great interface

allows you to do various tasks.

While adding contacts in Lotus Organizer 6.0, we found that it allows you to sort your contact list according to rules that could be set. Right-clicking on the contact list area and selecting Contacts Preferences allows you to customise the view of your contact list.

In RedBox Organizer 4.0, the address book can be accessed by clicking on the Address tab on the interface. The look of RedBox Organizer's address book is very colourful and attractive. Tabs have been made to categorise Business and Friends. There aren't too many fields to fill while entering data.

Mail features

If your PIM is well integrated with the e-mail client or provides you with mail features, it makes it that much more convenient for you to communicate not only with people on the network but also with individuals from all over the world.

Microsoft Outlook offered the best features, being primarily a mail client that is used widely. A whole lot of customisation options have been added to the software, such as various mail views. Mail can be sorted according to name or topic. It is well integrated with the browser and other applications, so opening a Web site URL or other document received via mail is really simple.

Using RedBox Organizer is also really simple. It uses the default mail client from the operating system and automatically puts in the receiver's mail address, etc. Lotus Organizer also uses the default mail client when you choose to send a mail to someone.

Cute Organizer and Epoch Organizer both have basic mail client setup features that are easy to use. The only trouble is that you have to specify the password when you set up your mail account, unlike in Outlook, where you can choose to not do so during setup. That way, your inbox is secure because each time mail has to be sent or received, the password has to be given.

CyberContact is another PIM with a small, integrated mail client that allows you to download and send mail.



CyberContact: Integrates e-mail client

Phone features

An in-built or well-integrated phone and fax dialler is the next thing to look out for in a PIM. But fax features are not as important nowadays since e-mail has become the preferred mode of communication, so only phone features are being discussed.

Microsoft Outlook scores again, because it is integrated with Microsoft's good old Windows phone dialler. It doesn't have too many features, but is good enough if you require simple dialling features for outgoing calls.

Most other PIMs, including RedBox Organizer and CyberContact, use the default Windows dialler software. Corel InfoCentral offers quite a few options such as international calling, etc for setting up the modem, which is done using the Windows wizard.

Day Timer Organizer 2000 is one of the best phone diallers around. It's a standalone phone dialler running completely on the PIM itself.

It offers the option to use calling cards in various countries. Incoming and outgoing calls can be recorded and logged with alerts and alarms. Office goers will certainly give this one a thumbs-up.

Export/Import features

Export and import features can be very useful if you have to move all your settings and contact lists from one software to another, using a specific file format such as CSV (Comma Separated Values). This is useful if you want to change your PIM or mail client or if you're moving to a machine that doesn't have your favourite PIM and you need your archive of contacts and other information.

Microsoft Outlook has the most comprehensive export and import features. You can export and import contact lists, mail accounts and mail into CSV or a whole list of formats available.

Lotus Organizer allows users to export data to a TXT file, and then import it

PDA as a PIM

PDA's are becoming very popular nowadays, with companies like Palm and Handspring selling millions of these devices. Most of these PDAs use the versions of the Palm OS and allow users to write e-mail, take notes, store schedules, exchange visiting cards and set alarms. It's these PIM-like features that have made PDAs so popular with users who need to have access to this information when they are on the move. So if you are someone who needs a PIM at all times to stay organised, just get yourself a PDA.

Online PIMS

When you're on the move, you can't jolly well carry your PC around for a quick glance at your day's schedule or important telephone numbers. In this case, an online PIM is the best solution. Yahoo Calendar is one such online PIM. It can be accessed through the Yahoo Messenger client once you register for the service.

Online PIMs aren't very customisable and detailed, but they include all basic features like calendars, reminders and online diaries. Some additional features are also usually available, such as news or horoscopes, which you don't get on your desktop PIM.

Online PIMs such as Web Event allow you to schedule work with a group of people over the Internet. Schedule Online has a wide range of accounts for all kinds of people, be it students or corporate executives. You can visit a site called FusionOne to sync contacts and notes between your mail client or PIM and the Internet.

SCORE BOARD Specifications

The PIM Feature

Name	Web site	Price	Integrated mail client	Organizer	Advanced Phone Features	Rating
Corel Infocentral 7	www.corel.com	Rs 4,600	No	No	Yes	B
Cute Organizer	www.kaboom.org.uk	Rs 700	Yes	Yes	No	C+
Cybercontact	www.liraz.com/cybercontact	Free	Yes	Yes	No	C+
Day Timer Organizer 2000	www.daytimer.com	Rs 3,000	No	Yes	Yes	B
Electronic Assistant Lite 4.0	www.danteproductions.com	Rs 1,000	No	Yes	No	B
Epoch Organizer	www.kaboom.org.uk	Rs 700	Yes	Yes	No	B-
Lotus Organizer 6	www.lotus.com	Rs 3,760	No	Yes	No	B+
Microsoft Outlook 2002	www.microsoft.com		Yes	No	No	A-
RedBox 4.0	www.inklineglobal.net	Rs 450	No	Yes	No	B+

through Microsoft Outlook. It also allows you to export to CSV, which is one of the most widely used formats around the world. Other PIMs like RedBox Organizer also support TXT and CSV import and export. Day Timer 2000, on the other hand, uses ASCII and Text values for its import and export functions. Like CSV, there also exist other formats such as VCard and VCalendar, which are used widely by Microsoft applications. VCard and VCalendar are special file formats that allow you to keep huge databases of contacts and appointment lists.

Ease of use

One of the easiest software to use was **Lotus Organizer 6.0**. Its interface is designed like a diary. The multi-tab structure makes navigation really simple, and you can change views at the click of a button. RedBox Organizer's interface is somewhat similar to that of the Lotus Organizer. RedBox has big buttons on the interface, which allow you to switch from one feature to another. There is a Show Me How button at the top left corner of the window, which you can use to learn how to do a particular task, with the help of a pop-up window.

In Microsoft Outlook, views can be changed through the various options in the View menu, such as enabling and disabling the Preview window, etc.

Outlook also has the immensely unpopular Clippy to help you out in doing particular tasks. The features have self-explanatory icons on the interface. Outlook Today allows you to view a summary of your calendar, pending tasks and inbox.

CONCLUSION

After going through the entire gamut of products, the winners were not difficult to pick—**Microsoft Outlook** followed by Lotus Organizer and RedBox Organizer.

Of the whole lot, Microsoft Outlook was the odd one out because its interface is more like a straightforward office mail client. But it offers far more features than the rest. This PIM-cum-mail client is only for users who want high features and have a mid- to high-end machine with plenty of RAM to spare.

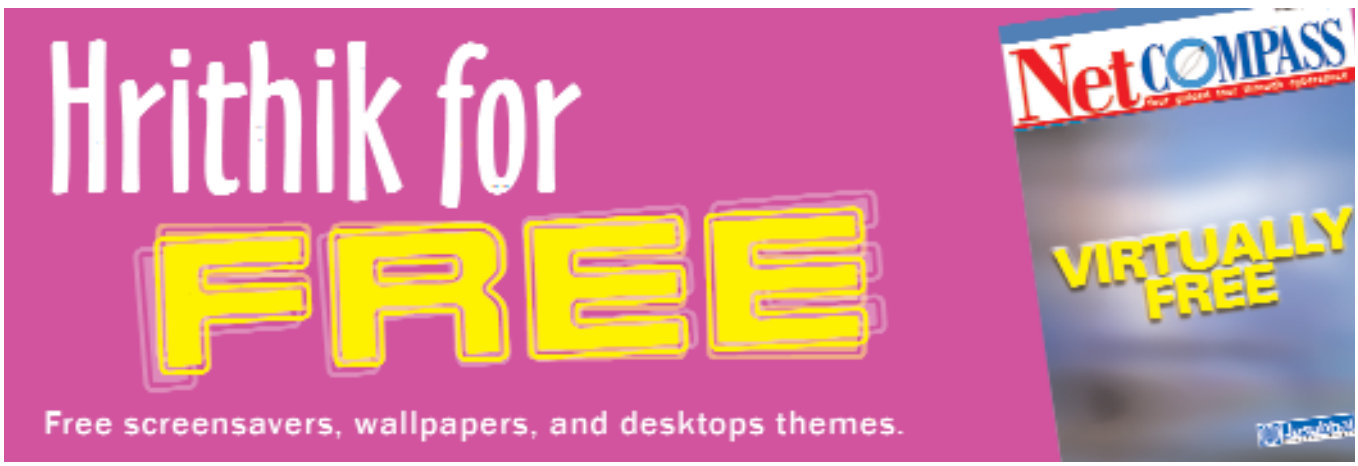
Then comes the RedBox Organizer 4.0, with a neat interface showing off its features on the opening menu itself, just like a well-designed Web page. It also includes a world globe in the package, which tells the time zones, the current time in different cities all over the world, and the time taken to travel from one place to another. Lotus Organizer scores the most when it comes to user-friendliness.



Feature-rich winner all the way

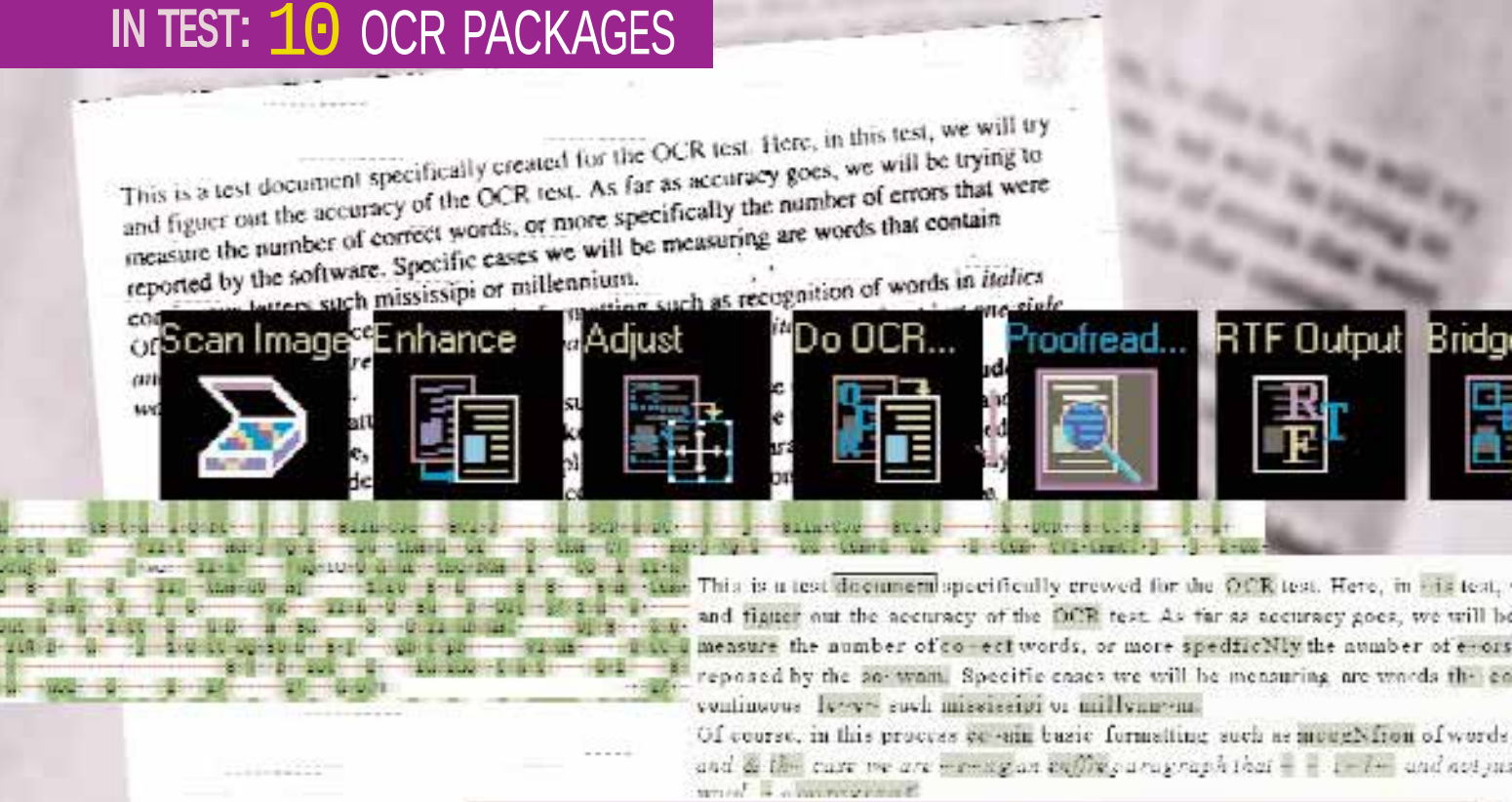
However, it lacked integrated features such as a mail client and a phone dialler. Electronic Assitant needs a face lift and needs to improve on the currently amateurish look on the main interface.

Epoch Organizer and Cute Organizer are low-end PIMs which do not offer any huge features but are compact in size.



Imaging: Jeevanand

IN TEST: 10 OCR PACKAGES



Read Right and Recognise...

that's what optical character recognition (OCR) software is all about. A look at the best of them

MOHAN KRISHNAN

Ever done research in your college days? How you must have wished there was a way to get an editable copy of all the research material that you'd painstakingly photocopied from the college library. Well, if you have a scanner, or even if you can get the pages scanned and save it as an image file, then an OCR software will do the job of converting it into text format that you can easily edit in your word processor.

Makes your life quite simple, doesn't it? The technology behind the OCR software—the OCR engine that ensures that you get accurate recognition—is quite a marvel, but let's forget the engine, and see how the software actually fare.

The OCR field

We tested 10 OCR packages in all, of which three—OmniPage Pro 10, TextBridge Pro Millennium and Recognita Plus 5.0—are from the same company, ScanSoft, though there's a separate Web site for the last product mentioned. The other popular OCR software we tested included Fine Reader 5.0 (the latest version, as opposed to 4.0 that was available last year), and Presto! OCR. The remaining OCR tested included Expervision Typereader 6.0, ReadIris Pro 6.0 and PageGenei Pro. Wocar 2.5 is the only one among the lot that came for free. Most of the OCR software had a fully functional trial version available for download, and those are the ones we used for testing, except in the case of FineReader, OmniPage and TextBridge, where we received a box pack. The OCR software cover a range of features from allowing you to scan normal printed documents to fax and dot matrix printouts. But if you are looking for the software to recognise your handwriting, then you better forget it…that's still miles away.

Accurate to a dot

As we expected, the accuracy of the OCR software was highest with the laser document (with an average accuracy of 99.68 per cent). The

Overall, the results get slightly skewed in favour of FineReader because of its fine performance in the fax test. If we exclude the fax test, and just concentrate on the laser, photocopy and dot matrix documents, Recognita Plus comes out marginally better than FineReader and even Presto! OCR is on par with FineReader. So, if you work in an area where you regularly have to OCR photocopied documents (say from books and reports) and not worry that much about reproducing the exact formatting, Recognita Plus might be a slightly better option. However, we feel you should stick to **FineReader**, which comes out tops with a recognition accuracy of 95 per cent across all documents, followed by TextBridge with 93 per cent accuracy. If you are a media company and receive faxed press releases on a regular basis or a sales company with branch offices sending fax reports, then FineReader would be quite a valuable tool.

Recognising the Source

Many of the OCR software under test allowed us to specify the source material in terms of whether it was a dot matrix or typewriter output, whether it had tables or multiple columns in it. We did try testing the OCR by using these settings instead of the default settings and without exception we found that the accuracy dipped, especially with the dot matrix option. For instance, CuneiForm had 30 errors without the dot matrix option, but this increased to 49. The same was the case with OmniPage, Presto! OCR, and PageGenei Pro. FineReader's 1 error in the typing test increased to 2 with the typewriter source selected. TextBridge Pro lost most of its recognition in the Fax test when we specified the paper source as degraded.

So, we suggest that you stick to the automatic or default settings before scanning. Also, the developers recommend scanning in gray scale (as opposed to line art) for better accuracy as the contrast levels are better adjusted. However, this again doesn't make much of a difference with the laser print document. It's only the fax document in FineReader that showed an improvement in accuracy levels with gray scale scanning.

Right in formation

If you constantly receive reports and other data from outstation sources, tables will form an inevitable part of these documents. It becomes essential, therefore, that an OCR retains the cell structure of the tables even while maintaining accuracy. Two software that really stood out in this respect were Presto! OCR and TypeReader. Both of them were 100 per cent accurate in recognising the table structure, even recognising the split cells as different cells. Presto! OCR was even better, for it had a marginally higher word accuracy than Expervision. We found that most OCR recognised the first table (with just rows and columns) without any problems. But the second table with wrapped text and split cells was a problem, and the software tended to recognise each line (even with wrapped text) as an individual cell, and interchanged text around with the split cells.

Product	Recognition (%)	Formatting (%)
Cuniform 99	80.68	51.49
ABBYY Fine Reader 5.0 Pro	97.15	88.70
OmniPage Pro 10	82.99	55.08
PageGenei Pro	83.99	36.91
Presto! OCR 4.0	83.34	69.84
Readiris Pro 6.0	82.20	38.76
Recognita Plus 5.0	88.59	47.68
TextBridge Pro Millennium	95.14	74.92
ExperVision TypeReader 6.0	82.85	66.74
Wocar 2.5	81.53	34.28

The recognition and formatting percentages are an average of the results of the laser, photocopying, dot matrix, typing and fax tests

TextBridge claimed it doesn't recognise forms and therefore didn't do well, but **OmniPage Pro**, the counterpart from the same company did the best when it came to recognising the form. However, we are sceptical about the actual usability of doing an OCR on forms, for even if the structure of the form is retained, lines in which you fill-up data aren't recognised, so there will still be some formatting work to be done before you start off with the form.

Even with the newspapers and the magazines, OmniPage Pro came out best in terms of retaining format as well as accuracy and it had no problem recognising text on a background. OmniPage worked by retaining the different columns in the multi-column stories as frames. However, there were some problems in changing the scanner settings in OmniPage as the application crashed. Also, while performing the OCR for the newspapers with automatic



SCORE BOARD Performance of the OCR Packages

Name	Contact	Price	Accuracy and Formatting (%)								Overall*	Rating
			Laser	Photocopying	Dot matrix	Typing	Fax	Table	Newspapers	Magazine		
Cognitive CuneiForm 99	www.ocr.com	Rs 6,000	83.45	80.41	83.75	68.48	0.00	90.10	45.00	35.00	74.86	B
Abbyy FineReader 5.0 Pro	Vikmans Multimedia, Phone: 011-6472325, E-mail: manish@vikmans.com, www.abbyy.com	Rs 5,000	93.25	92.54	92.72	99.57	80.93	98.83	92.50	97.50	90.93	A
ScanSoft OmniPage Pro 10	Sonata, Phone: 022-4943055, www.scansoft.com	NA	73.96	75.72	89.03	99.78	0.00	95.20	97.50	99.00	83.81	A-
ParaVision PageGenie Pro	www.pagegenie.com	Rs 4,700	67.36	67.27	78.64	71.09	11.18	44.76	30.00	55.00	65.47	B-
Newsoft Presto! OCR Pro 4.0	www.newsoftinc.com	Rs 4,700	88.74	89.22	91.91	99.57	0.90	99.67	75.00	92.50	84.98	A-
ReadIris Pro 6.0	www.irislink.com	Rs 6,500	86.45	82.15	63.30	49.13	0.00	93.25	20.00	77.50	73.53	B
Recognita Plus 5.0	www.recognita.hu	NA	83.43	83.40	77.50	0.00	0.00	96.75	77.50	95.00	80.08	A-
TextBridge Pro Millennium	www.scansoft.com	Rs 3,700	91.14	90.39	89.90	99.13	49.22	97.67	45.00	97.00	89.74	A
Expervision Typereader 6.0	www.expervision.com	Rs 11,700	82.44	88.72	89.78	99.13	0.00	99.00	75.00	40.00	76.41	B+
Wocar 2.5	http://persoweb.francenet.fr/~cambien	Free	81.17	82.48	54.76	46.52	0.00	44.76	15.00	15.00	56.31	C+

*The Overall score is the sum of the weighted results in the accuracy and formatting tests as also a reflection of the features

CONCLUSION

As evident, in terms of overall performance, **FineReader** scores with good performance in all the tests. It's among the few software that could recognise superscripts, and had the best accuracy in the fax test as well as the magazine that had reverse text. FineReader also came out tops as far as retaining layout goes and at Rs 5,000 is quite reasonably priced.

TextBridge Pro came very close with a good feature list that is mind-boggling and even gets overbearing at times. It also



managed a fair bit of accuracy in the fax test and recognised the text in reverse. Even Presto! OCR, which is based on the FineReader OCR engine, gave a good performance. Wocar was the only software that came for free, but apart from the laser printout test, its performance is nothing worth writing about and it had the least scores. We did expect a lot from OmniPage Pro, and it did quite well in the magazines and newspapers test as far as recognition capabilities is concerned. A new version, OmniPage Pro 11, has recently been released and it is said to have an enhanced OCR engine along with support for converting PDFs to text documents while retaining layouts, so that's something you can wait for.



Apple of my eye

VARUN SINGH

This is the third time apple has made our eyes pop! First with the iMac, then with OS X and now this powerful and beautiful Titanium PowerBook G4 slick brick. The metal that's been used to make everything from jewllery to the high quality parts for the space shuttle has never been seen in such beautiful shapes before.

Commercially-pure Titanium casing, rubberised pads all around devices inside the laptop to prevent shocks, perfectly packaged equipment and the no-dongle and no-tray approach in designing all devices from built-in Ethernet to the DVD ROM drive makes it a perfect rugged and reliable piece to lug around. Let's see the appealing features this baby has to offer.

G4? Ain't any P4!



A CPU Power Marvel when it came out a year ago. It has been compared to supercomputers and other Hi-Dhrystone churning devices, and is also one of the most power-efficient laptops. The Mobile version of the G4 doesn't take much power, and offers you near-desktop class performance without any compromises. Whether it's 3D applications or digital video, this baby will see to it that you never run out of CPU headroom even while you are on the move.

Airport in my lap!

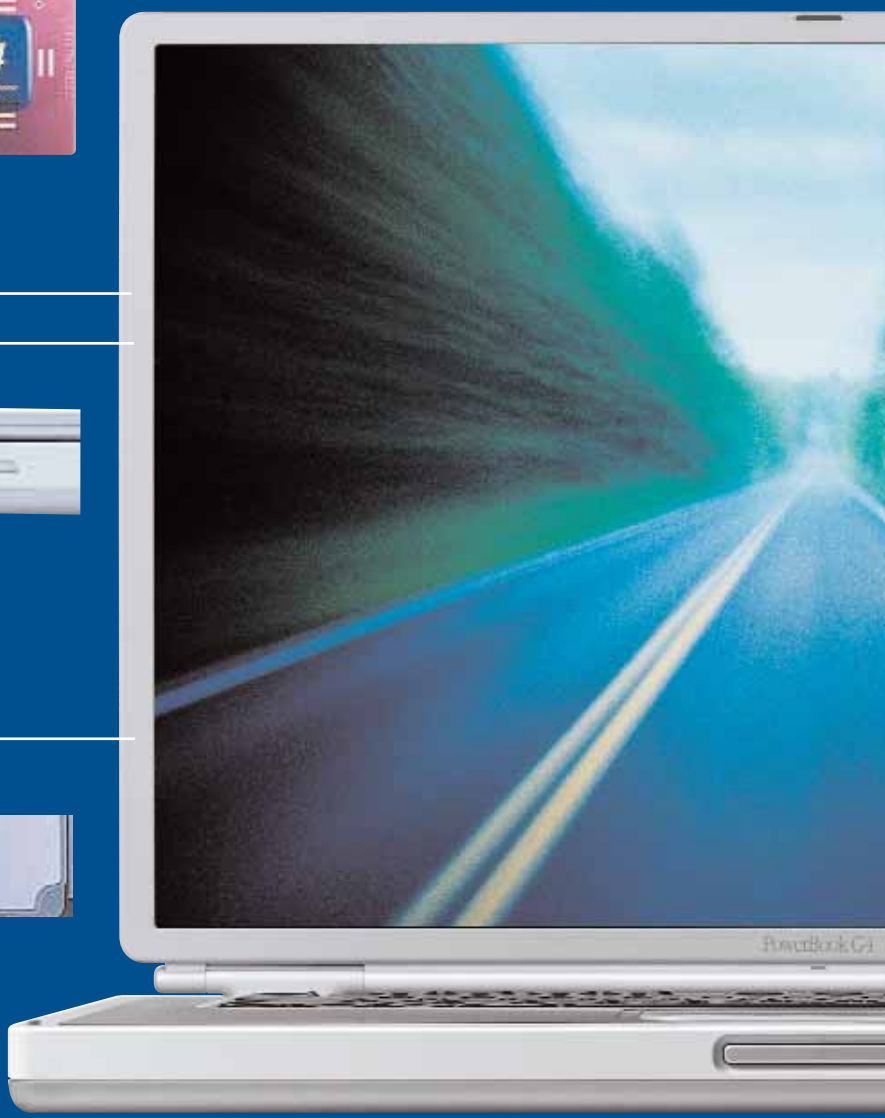


Yes! Not just the regular 10/100 Ethernet and 56K Modem, the PowerBook also has two Airport Antennas, one on each side. Airport is Apple's own wireless networking machinery that offers you 11 megabits per second connectivity on the move, and is also compatible with the 802.11 DSSS wireless protocol. You need to buy the Airport card separately to activate these two antennas!

Battery status indicator



This little button on the battery lets you find out how much charge is left in the battery without having to turn it on. And when turned on, the new OS X's battery meter shows you how much charge is left based on approximate usage time remaining, rather than just percentage of charge. Apple promises around 4 hours of battery life!



All-connected

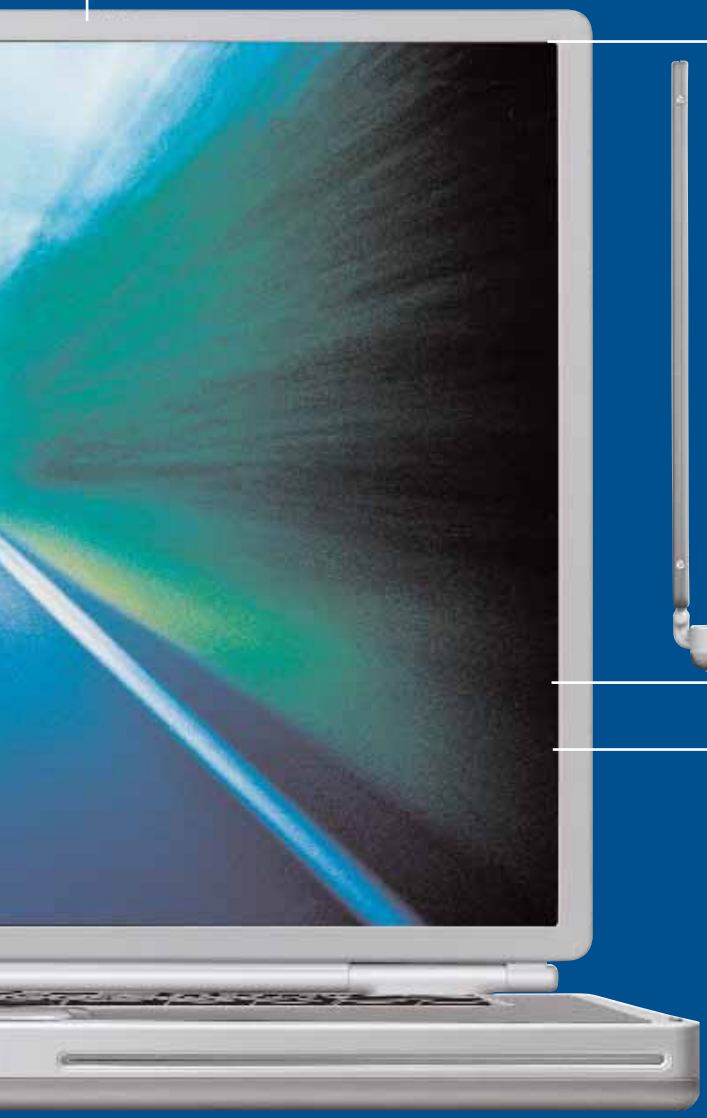
Although it isn't the first laptop to have all sorts of connections you can ever imagine, it surely is the smartest. One 400 megabits per second FireWire port, two USB 1.0 ports, a 10/100 Mbps Ethernet port, a 56 Kbps modem, a 4 Mbps IrDA infrared port, one S-Video Out, one regular VGA connector for connection to digital projectors and an extra PC Card and CardBus slot for upgradeability—all this fits un-intrusively without leaving any kind of dongles or weird buttons hanging out of the actual laptop.

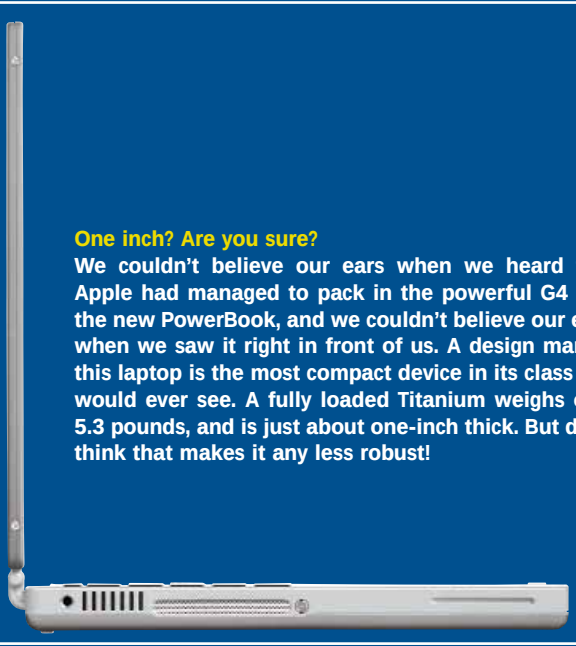




Huge screen

Wider than the viewable area of most 17-inch desktop monitors and offering resolutions as high as 1152x788 pixels, this wide screen active-matrix display is one of the cleanest and quite obviously the largest display available on any laptop nowadays. It's fun to watch DVD movies in wide screen modes on this baby.





One inch? Are you sure?

We couldn't believe our ears when we heard that Apple had managed to pack in the powerful G4 into the new PowerBook, and we couldn't believe our eyes when we saw it right in front of us. A design marvel, this laptop is the most compact device in its class you would ever see. A fully loaded Titanium weighs only 5.3 pounds, and is just about one-inch thick. But don't think that makes it any less robust!

Slot-In DVD! Now we're talking!

Those of us who have seen Pioneer's slot-In DVD drives,know they are the most robust with no trays that can break. Strangely, nobody except Apple ever thought of putting in a slot-in DVD-ROM drive in any of their laptops. Simple and smooth to operate, but a little noisy, this little slot will always be wheelin' for fun.



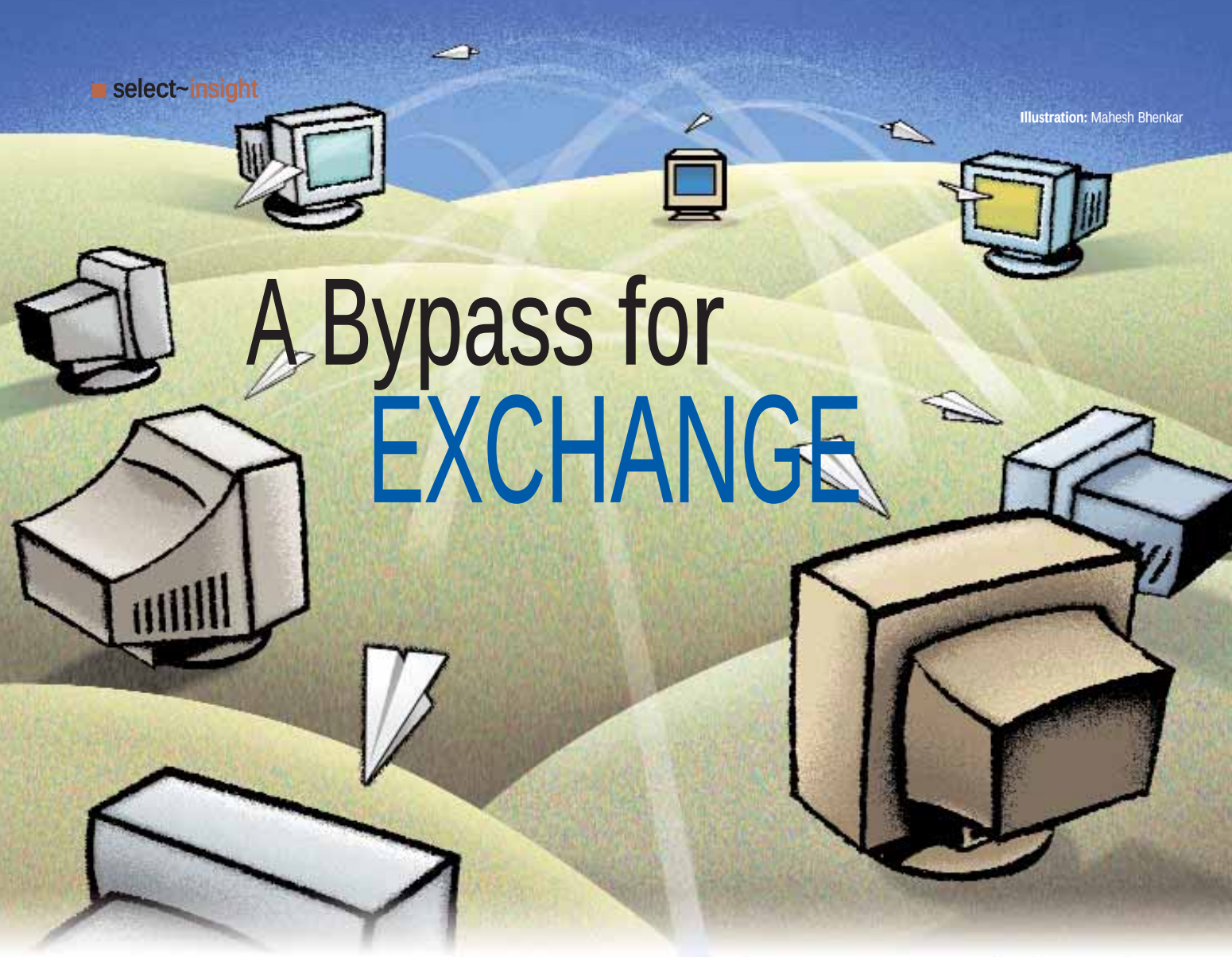


Illustration: Mahesh Bhenkar

A Bypass for EXCHANGE

With P2P networks, you can exchange files directly between the participating computers and avoid central servers

MANU KHANNA

Peer-to-peer (P2P) technology came to the forefront of popular consciousness when Napster's music sharing network became a rage, and drew attention for various reasons. While the future of Napster may be uncertain, the underlying peer-to-peer technology is poised to change the way we use networks.

A P2P network essentially consists of several computers (or peers) that directly exchange data among themselves. This is quite unlike a client-server model where all clients (or computers) get data from a single central server. The functions of searching for data and the actual exchange of data take place via software that is installed on the participating machines.

Napster: Search on server, share with peer

There are several different ways in which P2P technology can be implemented. In the case of Napster, the software uses your Internet connection to log you into a central Napster server. The purpose of the server is to maintain an index of all users online at any particular moment, and help them connect to each other. It also ensures that every user on the network has shared a directory on their computer that other remote users can access, and that only MP3 files are exchanged.

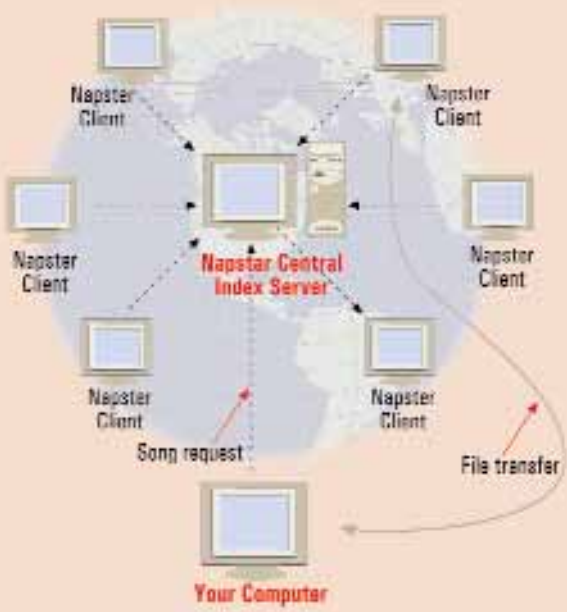
When you key in a search for a particular title or artist, the client software queries the index server to find a match. When a match is found, the server displays a list of all systems that have the file in the results window. Clicking on the file establishes a direct connection between your computer and the system that stores the selected file. On successful connection, the file begins downloading. The connection is broken once the download is complete.

Gnutella: No server, just peers

In the case of Gnutella however, which is an open source P2P file sharing network, all transfers happen without a central server. Each Gnutella client combines the functions of a search engine and a file-serving agent. When you enter a search for information, the client software goes and searches for other

Infographics: Jaya Shetty

Napster: How it Works



Site A asks site B for data matching 'ZIP'. After passing back anything that might be of interest, site B passes the request on to its colleague (same as reference or bookmark) at site C and keeps a record that site A has made the request. If site C has something matching the request, it gives the information to site B, which remembers that it is meant for site A and passes it through to that site.

clients that could have this information. If a match is located, then the software creates a connection that allows you to download the files directly.

Gnutella is actually much more versatile than Napster because it allows users to share any type of file, not just MP3s. Also, the absence of a central index server means that the clients are almost impossible to locate. This reduces the vulnerability of the network to different types of network attacks.

However, the distributed search mechanism used by Gnutella is somewhat inefficient. Because it can only detect clients that respond to a request for information, it may not find matches that lie beyond its 'horizon', or in other words, are 'out of sight' of the software.

Freenet: an alternate Internet

Freenet, another P2P system similar to Gnutella, is working towards creating an entire alternate Internet, which tries to get around the regular structure of the Web, which involves the use of servers to exchange information. Think of it as a group of computers (individual users) connected through the Freenet software, which identifies others on the network.

When searching for specific information on Freenet, the Freenet software sends out the request in the form of a search string via the Internet to all other Freenet clients. These clients then try and match this string with the ones stored on them. If a client finds a match, it sends a response to the computer from where the request originated. This response not only contains the requested data but also the address of the node that sent the response known as 'reference'.

In case a node doesn't have the requested data but knows the reference of one that does (just like a bookmark), it passes on the request to the 'bookmarked' client. This process goes on and on till the user who made the request initially stops the search.

Spreading the Rumor: McAfee's VirusScan ASaP service

In addition to file sharing and collaboration, P2P technology is also being used to develop software that helps in improving the efficiency and reliability of software used by enterprises to protect their networks.

Rumor is a technology used in McAfee's VirusScan ASaP service, (formerly called myCIO) that allows PCs on a network to become servers and provide other clients with updated virus signature files. The first user to log on downloads an anti-virus update from the server via the Internet. Then, this user plays the role of the server for others on the network. Every time a patch is released or a virus definition is updated, the system retrieves the latest file and automatically serves it to any client that needs it.

Rumor uses a technology called token-based authentication that ensures that only legitimate anti-virus update files can be shared. This helps eliminate the possibility of rogue files spreading over the network. Another advantage that Rumor has over a system such as Napster is that it detects an incomplete download (due to a broken connection) and allows the process to be resumed later. This eliminates the likelihood of incomplete files being distributed through the network.

Another interesting feature is the application-independence of the technology. This will allow the system to be extended to deliver other file updates to users, including all kinds of security software such as firewalls and other intrusion detection software.

There are more...

The list of new P2P-based applications goes on. Groove, a corporate example, is a networking

The Humane Side

Intel and United Devices have set up a 'virtual supercomputer' to aid researchers optimising a drug for curing leukemia.

The virtual supercomputer, which is quite similar to SETi which is being used to search for extraterrestrial intelligence, will use a concept called distributes computing that allows utilisation of unused processing power and hard disk space of millions of computers from across the Internet. Each computer downloads a small application that analyses the cancer-fighting properties of 250 million molecules. When finished, it sends processed data back to researchers, for further analysis.

Depending on how many people choose to participate, the time required to develop new drugs could be cut down to as little as five years from the current estimate of 12 years.

Find it on digit interactive
Whitepapers on peer-to-peer technologies
Check out **Mindware**

A JXTA stack

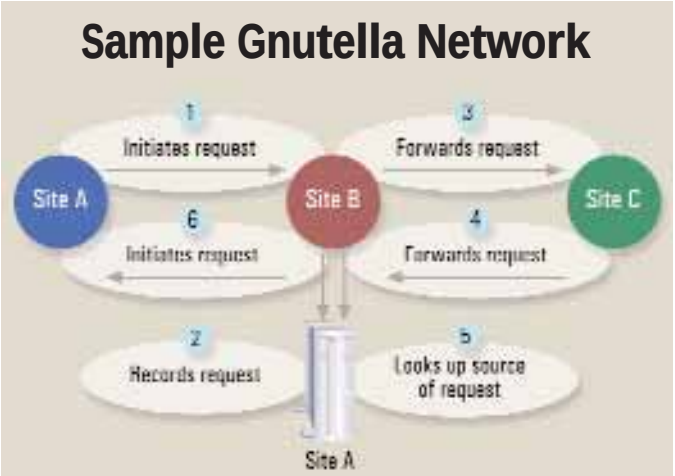
JXTA is a protocol, like TCP/IP or FTP, being developed by Sun Microsystems, which could be used to develop a distributed network using P2P technology, and to develop basic building blocks and services for P2P networks.

The present P2P applications, excluding Groove and to a certain extent Gnutella, are capable of performing only one task. For example, Napster is only for file-sharing, SETI@Home or Rumor only for resource sharing, and so on. What JXTA plans to achieve is to design an application that will be able to handle file-sharing, instant messaging, as well as resource sharing from one single interface.

application based on a P2P architecture whose goal is to connect people over the Internet or a local network and then allow them to work together on a common project.

The software allows users to collaborate in encrypted, shared spaces that are stored on the computer of each member of the virtual meeting place. This can be beneficial for enterprises because it lets them provide employees with an environment that is conducive to collaboration while also utilising the storage capacity of the hard drives of users instead of having to dedicate a central file server to the task. The ability to update files when offline clients log on and optimum bandwidth utilisation are other reasons why Groove is useful for individuals who do not have high Internet or LAN speeds.

Consider a Groove-generated collaborative environment where three people are working on the same file. Person A makes a change to the file, which means that the remaining two should be informed about the change. Instead of sending the complete file, Groove sends only the delta (a data packet in Groove) for the changed portion, thus saving bandwidth.



Rumor Technology is used to broadcast antivirus and firewall configuration updates to all computers on a single network

OpenCola Folders is another product that attempts to tackle the problem of information overload caused by inefficiencies in conventional search engine technologies. It allows users to configure the software to search for information with the option to specify additional parameters such as document type. The software then goes out and checks whether other OpenCola Folders can provide it with the required information.

So, what's next?

The fact that P2P technology provides developers with a networking architecture that facilitates direct communication between people makes it very popular for applications that involve the exchange of data. However, this is just the tip of the iceberg.

Coming soon are intelligent search engines like BadBlue (**www.badblue.com**) that use P2P agents to search networks for files that have been publicly shared by users. This will probably lead to the next step in the evolution of search engine technology.

But some of the more complex applications that are beginning to come out now are those that improve the utilisation of network resources. Chaincasting, from ChainCast Networks (**www.chaincast.com/technology/chaincasting.html**), involves the use of P2P technologies to establish streaming chains that reduce the costs associated with the high bandwidth requirements for video streaming.

Whether it is entertainment or work, P2P technology is not just making its presence felt, but is also providing a viable and preferred alternative to client-server networking. So if you still aren't a link in the P2P network, prepare to become one very soon.

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HARDWARE

Radar

Plextor's latest CD-Writer, IBM's TransNote, a CD-ROM drive, a motherboard, a graphics card for great gaming experience and other hardware

Find it on digit interactive

More Info on the hardware products tested. Check out **Mindware**

ASUS GeForce2 MX (AGP-V7100)

Great gaming experience

Best buy for a high-end gaming experience at a normal cost. The card performed well in the tests.

It is capable of delivering a cool 700 million Texel fill rate and has processing capabilities of up to 20 million triangles/second. The heat sink on the card makes it a good buy for the overclocker.



SPECIFICATIONS:
180 MHz core speed, 166 MHz memory run clock speed
Bundled software: Drivers, ASUS DVD 2000, 3DEEP, Soldier of Fortune
Benchmarks:
Quake III: 102.6 fps (normal mode), 84.3 fps (high quality mode); 31.6 fps (1280x1024)
MBTR test: 51.5 fps (640x480 at 16-bit); 50.9 fps (640x480 at 32-bit)
1835 in 3D Mark 2001

verdict	B +
ASUS GeForce2 MX	
Performance	
Build Quality	
Value for Money	
Features	
OVERALL	

\+ Very good performance
+TV out slot
+ Heat sink
Price: Rs.10,500
Contact: Rashi Peripherals
Phone: 022-8260258 Fax: 022-8190766
E-mail: kalavr@rptechindia.com
Web site: www.rptechindia.com

IBM Microdrive

Small but spacious

This astonishingly small drive comes with a storage capacity of 1 GB and a compact flash adapter card which it uses to connect to the PCMCIA bay of the laptop. The drive is a blessing, in terms of its storage capacity, for those who use the laptop extensively and need to transfer data to and from a desktop PC.



SPECIFICATIONS:
Interface: PCMCIA
1 GB capacity; compact flash adapter card; 3600 rpm drive spindle speed
Benchmarks:
Drive did not respond in SiSoft Sandra 2001; drive not detected in HDTach due to shortcoming in benchmark
3 minutes 8.75 seconds to copy 100 MB from primary disk; 2 minutes 48.28 seconds to copy to primary disk
3 minutes 7.62 seconds to copy 10x10 MB files from primary hard disk; 2 minutes 44.30 seconds to copy to primary disk

verdict	B +
IBM Microdrive	
Performance	
Build Quality	
Value for Money	
Features	
OVERALL	

\+ Very compact
+1 GB storage capacity
Price: Rs 23,000 + taxes
Contact: Zeta Technology
Phone: 022-4102277
Fax: 022-4100949
E-mail: tejas@zetaindia.com
Web site: www.zetaindia.com

Plextor Plexwriter 16/10/40 PX-1610TAW

The write thing

This writer comes with the BURN proof technology, which always keeps the buffer full while the CD is being burned. This is especially helpful at high speeds, where even a slight slack in the data flow can damage the CD. Though the writing speed has been improved majorly, the erasing speed is average.



SPECIFICATIONS:
BURN proof technology
Features: fan at the back chassis to keep the internal drive electronics, motor and head cool
Bundled software: included AHEAD Nero 5 CD-Burning software
Benchmarks:
19 minutes 42 seconds to erase/write 650 MB of data; 1250 in CD-Winbench 99, 586 KBps random read, 134 ms average access time
SiSoft Sandra: 19 minutes 45 seconds at 4x; 6 minutes 51 seconds at 12x

verdict	B +
Plextor Plexwriter	
Performance	
Build Quality	
Value for Money	
Features	
OVERALL	

\+ Very fast
+ Nero CD burning software included
– Average file copy speed
Price: Rs 13,950 + taxes
Contact: Zeta Technologies
Phone: 022-4102277 Fax: 022-4100949
E-mail: tejas@zetaindia.com
Web site: www.zetaindia.com

Slim and slick

Designed to look like a slick folder, it opens up to show you two very innovative things: a foldable and flip-display touch screen on one side and a big A4-sized notepad on the other. This notepad is powered independently and lets you take notes as if on regular paper with a special pen provided.

IBM TransNote



SPECIFICATIONS:
Pentium III 600 MHz processor, 64 MB RAM, 10 GB HDD, integrated 10/100 Ethernet, 56K modem, 10.4 inch TFT Touch screen

verdict	B +
IBM TransNote	
Performance	
Build Quality	
Value for Money	
Features	
OVERALL	

\+ Feature rich
– Small screen
Price: Rs 2,30,000
Contact: IBM India
Phone: 080-2079999
E-mail: isawkar@in.ibm.com
Web site: www.ibm.com/in

Restores in a jiffy

This card allocates 370-MB buffer space, which contains an image of the entire hard disk. The image is accessible only when you restart the PC and press the restore key, which can be password protected. It's completely independent of the size of the hard disk and protects the hard drive from viruses and destructive changes in software configuration.

Turbo Protect Card



SPECIFICATIONS:
Allocates 370 MB of buffer space
OS support: DOS/Win 3.1/98/NT/2000
Benchmarks:
8-10 seconds to restore lost data and partitions

verdict	B +
Terbo Protect Card	
Performance	
Build Quality	
Value for Money	
Features	
OVERALL	

\+ Fast restore
\+ Password-protected restore key
– Bit difficult to understand
Price: Rs 4,450 (+ Rs 250 for installation)
Contact: Turbo Tech
Phone: 022-5705744 Fax: 022-5705755
E-mail: info@turbotech.com
Web site: www.turbotech.com

Fast reader

This 56x card performed well in all the tests. The amount of time it took to rip 25-MB tracks (first, middle and last track) from an audio CD to MP3 format was impressive. Though it didn't come with any bundled software or manual, at the present price level, it's worth a closer look and is a good buy for the home PC.

APEX CD-ROM 56x drive



SPECIFICATIONS:
Interface: IDE
Features: 56x read speed, digital and analog out
Benchmarks:
2328 overall score in SiSoft Sandra 2001, 3.3 MBps sequential read speed, 757 KBps random read speed
1940 in CD-Winmark
19 seconds to rip 25 MB tracks from audio CD to MP3 from the first track, 35 seconds to rip from the middle track, 43 seconds to rip from last track

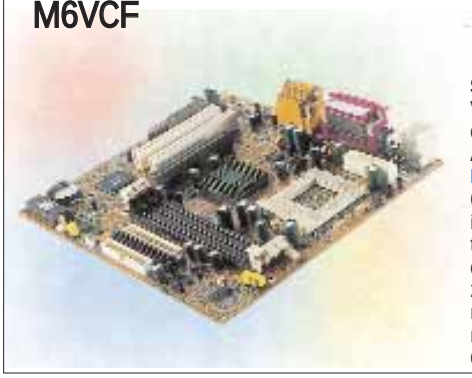
verdict	B +
APEX CD-ROM 56x	
Performance	
Build Quality	
Value for Money	
Features	
OVERALL	

\+ Very cheap
\+ Fast ripping time
– No bundled driver or manual
– No play button
Price: Rs 2,000
Contact: Apex Computer
Phone: 080-8368483

Not a star performer

The board couldn't go beyond 69 fps in *Quake III*. You should download the four-in-one driver from the VIA site, as the one bundled with the board does no good to its performance. Though reasonably priced, it still doesn't offer the juice that you can get from other boards in the same category. Definitely not suitable for gamers and graphics application users.

BIOSTAR Motherboard M6VCF



SPECIFICATIONS:
VIA 82C964X north bridge chipset, two PCI slots, 4x AGP slot.
Benchmarks:
69 fps in Quake III, 26.1 fps in MBTR at 640x480 resolution at 32-bit depth, 23963 drive index in SiSoft Sandra 2001, 36 MBps sequential read speed, 8 MBps random read speed, 24.6 in Content Creation Winston 2000

verdict	B
BIOSTAR Motherboard M6VCF	
Performance	
Build Quality	
Value for Money	
Features	
OVERALL	

\+ Gave data transfer performance
\+ Poor graphics performers
– Only two PCI slots
Price: Rs 4,500
Contact: BMI Technologies Pvt Ltd
Phone: 080-5582359
Fax: 080-5582207
E-mail: harishkr@postmark.net

SOFTWARE

Radar

The latest software in the market for editing photos, logging PC activity, encryption and more

Find it on digit interactive

More Info on the software products tested. Check out **Mindware**

KPKFile

Two-level encryption

An encryption utility for Windows having two modes. The File encryption mode lets you assign a password to a file and even hide a file inside another. In the Private Folder mode, your folder will be visible in Explorer only after you launch the software and key in the password. A great way to protect sensitive data.



SPECIFICATIONS:
Features: Special folder created which is impossible to access without password, buries file inside file
Download Size: 1.57 MB

verdict	B
KPKFile	
Ease of use	
Features	
Performance	
Value for money	
OVERALL	

\+ Free
\+ Good encryption features
– Bad interface, difficult to use
Price: Freeware
E-mail: john52612000@yahoo.com

eScan Pro

Protection against bugs

This anti-virus package has a well-laid-out interface. Though it doesn't feature DOS scanning during bootup, this is not an issue if you are using versions of Windows that do not use DOS. Overall, a good package for users who are frequently online. Mail Scan is an independent software and can be purchased separately.



SPECIFICATIONS:
12 MB install size, requires 5 MB RAM
Features: updates on virus definitions available on their site, blocks script and scans mail
Benchmarks:
Virus detection of 99 per cent; cleaning rate of 72.25 per cent; 10 minutes 12 seconds to scan 7,500 viruses

verdict	B +
eScan Pro	
Ease of use	
Features	
Performance	
Value for money	
OVERALL	

\+ Good virus detection and cleaning
\+ Respectable detection of Zipped viruses
– No bootup scans in DOS
Price: Rs 1,800
Contact: Microworld Software Services
Phone: 022-8265701 Fax: 022-8344750
E-mail: vig@mspl.net
Web site: www.mspl.net

Adobe Photoshop 6

Designing fun

Photoshop 6 is much easier to use than any of its previous versions and includes additional features such as the Liquify effect, the option to add sound-based descriptions to image files, and the Web Photo Gallery which converts images automatically for use on the Net, thus making it a complete and an extremely feature-rich image editing software.



SPECIFICATIONS:
Features: Support for vector images, extra bar below the menu bar with additional settings for each tool, Wrap Text feature allows you to apply various styles to text, Step Forward and Backward features for Undo and Redo, more options to lock layer, Web Photo Gallery to uplink images to the Web

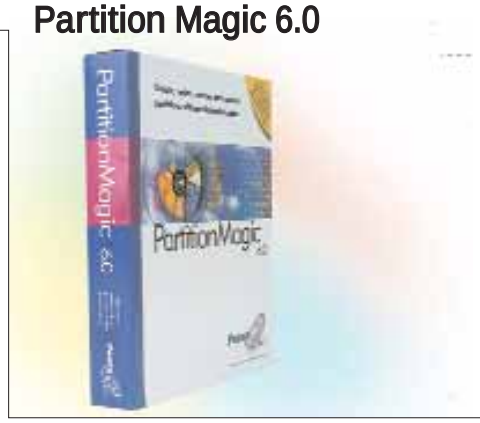
verdict	A -
Adobe Photoshop 6	
Ease of use	
Features	
Performance	
Value for money	
OVERALL	

\+ User friendly, good support for the Web
– Occupies quite a bit of space on the hard disk, quite resource hungry
Price: Rs 39,456
Contact: Adobe System
Phone: 022-6437209 Fax: 022-6432275
E-mail: hgoel@adobe.com
Web site: www.adobe.com

Partition Magic 6.0

Of splits and partitions

The new improved features in this version are its password support, conversion of FAT32 file system to NTFS, support for Win Me and Win 2000 professional, and a wizard for copy partition and undelete partition, which make it more user friendly and a complete utility in itself. Partition-Info gives you information about the partitions on your hard disk.



SPECIFICATIONS:
Features: Multiple operating system management; support for FAT, FAT32, Linux Ext2, Linux SWAP, NTFS, and HPFS partitions

verdict	A -
Partition Magic 6.0	
Ease of use	
Features	
Performance	
Value for Money	
OVERALL	

\+ Intuitive interface
\+ Easy to use
\+ Feature rich
Price: Rs 3,150
Contact: G.T. Enterprise
Phone: 080-6606093 Fax: 080-6671407
E-mail: gtcdrom@vsnl.com
Web site: www.gtcdrom.com

Protector Plus 2000

Poor show

This anti-virus program proved to be below par in detecting old and new viruses. It failed to detect any of the 9000 viruses we used for testing in the compressed form. The software succeeded in detecting and repairing the viruses only after they were extracted into a temp folder. Protector Plus also lacks features such as scanning your e-mail for virus.



SPECIFICATIONS:
Features: DOS boot up check, browsing virus scan, download scan, script blocking, can create reports and download updates
Benchmarks:
No viruses detected in compressed form
To test detection capabilities in the uncompressed form, we unzipped some of the newer and deadlier viruses and it detected all of them

verdict	B
Protector Plus 2000	
Ease of use	
Features	
Performance	
Value for Money	
OVERALL	

\+ Easy installation, simple to use
\+ Virus updates from the Net
– No viruses detected in compressed form, no e-mail scanning
Price: Rs 1,950 Contact: Adit Microsys
Phone: 079-6400255
E-mail: sales@aditmicrosys.com
Web site: www.aditmicrosys.com

Symantec Ghost 7.0

Ghost of an image

This version is more advanced and can perform more jobs. The new features include auto backup of the client machine; the ability to load the disk image with different hardware configurations; the ability to customise the client computer to individual or group needs by cloning the image of one computer on all the other machines over the network.



SPECIFICATIONS:
Features: Images can be dumped onto a client machine through the network, lets you dump image on the PC with different hardware configurations, simplified backup and recovery

verdict	B +
Symantec Ghost 7.0	
Ease of use	
Features	
Performance	
Value for Money	
OVERALL	

\+ Feature rich
\+ Very detailed manual
– Bit difficult for first timer
Price: Dependent on number of users
Contact: Tech Pacific
Phone: 022-5960227
E-mail: vpai@symantec.com

Studio DC Plus 10

Video editor

This video editing software comes along with a PCI capture card. It lets you capture VHS from camcorders or any other recording device to your PC through the PCI capture card. It lets you capture full length, full motion videos on your PC. The installation is simple and takes around 104 MB of disk space with additional tools for non-linear editing.



SPECIFICATIONS:
104 MB free hard disk space; compression ratio: user selectable from 3.1:1 to 100:1; maximum resolution of 640x480, 30 frames/60 fields per second; 640x480, 30 frames/60 fields per second output
Features: Additional tools for non-linear editing (Micro Video Expert, Studio DC10 Hardware Test, Vidcap, DirectX diagnostic tools), facility to insert sound files and titles

verdict	B +
Studio DC Plus 10	
Ease of use	
Features	
Performance	
Value for Money	
OVERALL	

\+ Compact, easy to use, cheap
– Fewer features
Price: Rs11,899
Contact: Pinnacle Systems
Phone: 011-6464505
Fax: 011-6231431
E-mail: ksanghi@pinnaclesys.com

Reviews

Find it on digit interactive

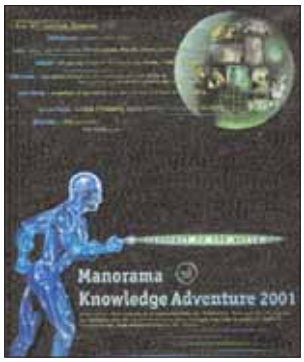
Arena

For game reviews check out,
Playware

Knowledge trip

This CD from the publishers of Malayalam Manorama contains a lot of useful information and offers easy manoeuvrability among the various topics such as 'India Panorama', 'Quiz' and more. Interesting sections include 'Quiz' which allows you to test your visual, auditory and general knowledge skills, and 'Media' with a collection of audios, videos, animations, charts and more.

Manorama Knowledge Adventure 2001



Developer: Malayala Manorama
Contact: Corporate Voice Shandwick
Phone: 022-2022293
E-mail: cvsmum@corvoshandwick.co.in
Price: Rs 495
Rating: ▲▲▲△△

Linguistic fun

Want to learn a foreign language? This five-CD pack offers you a choice of six popular international languages—Spanish, Italian, French, Portuguese, German, and Japanese—coupled with a Talking Dictionary and Vocabulary Builder. It also provides you the basics of vocabulary and pronunciation, lets you listen to dialogues and record and play back your own in the desired language.

Foreign Lanuage Advantage 2001

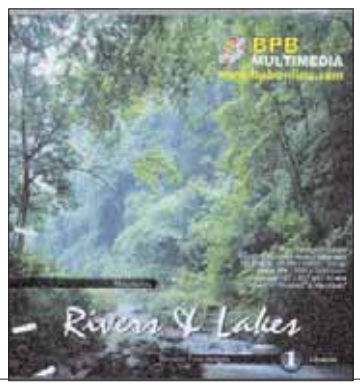


Developer: Encore Software
Contact: Microware Computer Services
Phone: 022-8729225
E-mail: sales@mwcdrom.com
Price: Rs 1500
Rating: ▲▲▲△△

Image shopping

If you work for an advertising agency, design agency or need some good-looking images for your Web site then this is the CD for you. There are various images under different categories and they are all royalty free so you needn't bother about copyrights. This CD boasts of 1001 royalty-free images of picturesque mountains, rivers and lakes. The images come in high resolution JPG, BMP and PICT formats.

Rivers & Lakes



Developer: BPB Multimedia
Contact: BPB Publications
Phone: 011-3254990/91, 3272329, 3250318
E-mail: bpb@vsnl.com giasbm01.vsnl.net.in
Price: Rs 599
Rating: ▲▲▲▲△

On the Stands

The Internet Economy of India

This book provides you with insights into the Internet Economy of India. The book contains articles, interviews related to various aspects of the Internet in India such as cyber laws, bandwidth, e-commerce and more.



Developer: INOMY Media
Phone: 022-2070989
E-mail: cbsbom@giabm01.vsnl.net.in
Price: Rs 495

COM+&XML: ASP.NET on The Edge

This is a book for developers and is about writing enterprise applications and covers the basics of .Net architecture, the workings of COM+, ASP.NET and XML, through building complete Web-based applications.



Contact: IDG Books India
E-mail: idgbooks@vsnl.com, hungryminds@vsnl.net
Price: Rs 249

ODYSSEY 2001: Exploring the Internet

Written in a simple, easy-to-understand language, this book provides you with a basic introduction to the Internet. It also provides a huge list of foreign and Indian sites under various categories.



Contact: Proman Assosciates
Phone: 022-8016434
E-mail: corporate@proman.net
Price: Rs 290

UNDERCOVER

The cable experience



Illustration: Mahesh Benkar

Agent 001 files his report on the cable Internet scene. Read on to see whether a cable Internet connection is the answer to your surfing woes

Bandwidth of up to 256 Kbps! Download speed of up to 24 Kbytes per second! My eyes goggled and my mind boggled. Adrenaline pumped through my entire system. Everything that was being said about cable Internet seemed to be too good! Too good to be true, in fact. So I decided to find out for myself if this latest boon for Internet junkies was in fact everything that it was cracked up to be.

My first stop was in the vicinity of Santa Cruz and Bandra in Mumbai, where I spoke to two cable operators, who are now providing Internet access. What they had to say about the benefits of cable Internet was nothing that I hadn't already heard—"This connection is not through the phone…this is the fastest form of Internet access that you can get for your home…you won't have to pay any phone bills to surf the Net…you can get online whenever you want to, for however long you want…"

I was definitely intrigued, so I decided to take a closer look at how these operators actually go about setting up your cable Internet connection. What I learnt was that in reality, none of these operators actually offered 'cable Internet access' in the true sense of the phrase. Cable Internet access usually requires a cable modem for each individual connection. But what I found was that cable operators usually provide the Internet connection through a WAN, which connects a large number of buildings and residences through a central server. A conventional LAN card is installed on your computer and you are then linked to the operator's central server using either the standard UTP (Unshielded Twisted Pair) or coaxial cable. This method of connectivity is similar to the manner in which homes are connected with cable TV and—as I realized while overseeing one of the installations—just as unstructured! A wire is simply strung from one house to another via a hub. In a housing society, this would imply wires running all over the place, over windowpanes, over pipes and along them, and it gets even messier as the number of subscribers increases.

Cable operators usually provide the Internet connection through a WAN, which connects a large number of buildings and residences through a central server

I also found that the only factor that differed from one operator to the other was the cost of installation and the monthly charges. In places where cable Internet services were already available for a couple of months, the monthly rentals were approximately Rs 100 to Rs 300 cheaper than in places where cable services had just been set up. Installation charges ranged between Rs 4,000 to Rs 6,000 and all operators I spoke with offered a 100 Mbps LAN card as part of the installation. I found that operators preferred UTP cables over coaxial cables because they were easy to install. "Troubleshooting connections with UTP cables is much easier compared to coaxial cables–lesser *janjhat*!"

What about the special services offered with cable Internet, you ask? Well, if the operator has a private ISP license and his own Web server, then you could get an e-mail account. You could also get telephony services, allowing you to make long-distance calls over the Internet at much cheaper rates. While most operators said they were in the process of procuring a private ISP license and having their own Web server running, they seemed hesitant about providing telephony services as Internet-based telephony services are not yet legal in India.

Well, all said and done, cable Internet does provide faster access and download speeds, but only when a few people are online. In a cabled network neighborhood, a large number of households share a single transmission cable and the bandwidth gets split among all of them. So performance tends to take a big dip at peak hour.

Want to share your experiences with getting a cable Internet connection installed?
Write in to readersletters@jasubhai.com

Smart Buyer Tips

Keep these points in mind while going in for a cable Internet connection

- Preferably go in for the Internet connection in a group. Cable operators give discounts when more than one person goes in for the connection as part of a group. It's also easier to implement if your neighbour has a connection.
- If you buy the LAN card yourself rather than having the operator install it, you can save a couple of hundred rupees.
- Go in for the 'unlimited package' where there is no time restriction on how long you can surf, as opposed to a time-restricted scheme. Some operators do offer this, so make sure you go in for the right package.
- Get in touch with the technical personnel and find out the actual minimum that your speed could drop to. See that this is not lower than 64 Kbps, otherwise there would effectively be little difference compared to your older modem-based Internet experience.

A-List

A listing of the best products in different hardware and software categories

Find it on digit interactive

More Info on the top five products tested in each category. Check out **Mindware**

Who's in, who's out? The competition's hot, but only the winners get to this page—a listing of the best performing hardware and software that have been tested till date in different categories.

Every month, at the Digital Media Test & Research Centre, we carry out a series of comparison tests as well as individual product reviews. Based on these tests, the best products have been listed here (*detailed reviews on Digit Interactive-Mindware*). As different products get reviewed over the months, the top products might find themselves slipping out of the charts and replaced by the latest entrants in the market. So, keep your ears sharp and eyes open and keep yourself abreast of the latest cool products.

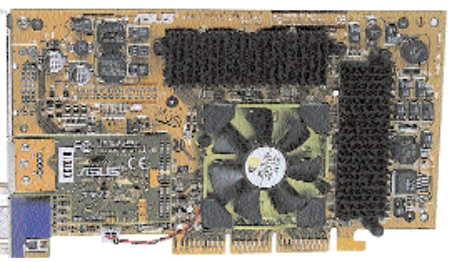
HARDWARE

Monitors (14- & 15-inch)
Sony CPD-E100
+ Good features and performance
– Not for professionals
Contact: Rashi Peripherals
Phone: 022-8260258
Fax: 022-8190766
Price: Rs 14,100

Monitors (17-inch)
ViewSonic PS775
+ Very good image quality
+ Support for high resolution
Contact: Roop Electronics
Phone: 022-6631521
Fax: 022-6103919
Price: Rs 24,000

Monitors(19- & 21-inch)
Sony CPD-G500
+ Truly flat 21-inch screen; support for nearly every type of image
Contact: Rashi Peripherals
Phone: 022-8260258
Fax: 022-8190766
Price: Rs 86,500

Graphics card
ASUS V7700 GeForce 2 GTS Ultra
+ Blazingly Fast; DDR memory
Contact: Mnemonic Systems
Phone: 022-8260258
Fax: 022-8190766
Price: Rs. 31,500



Speakers
Creative SoundWorks DTT3500
+ True Dolby Digital-compliant sound
Contact: Compuage Infocom
Phone: 022-4913986
Fax: 022-4919069
Price: Rs 30,000

Soundcards
SoundBlaster Live! Platinum 5.1
+ Dolby Digital AC-3 compliant
+ High quality sound processing
Contact: Compuage Infocom
Phone: 022-4913986
Fax: 022-4919069
Price: Rs 12,500

Motherboards
ASUS P4T
+ Fits into any ATX cabinet
+ Good feature list
Contact: Rashi Peripherals
Phone: 022-8260258
Fax: 022-8190766
Price: Rs 17,500

Processors
Pentium 4 - 1.4 GHz
+ Fastest processor tested by us
+ Good build quality
Contact: Ockam Systems
Phone: 022-6234798
Fax: 022-6704503
Price: Rs 35,000 (kit including motherboard, 128 MB RDRAM and cabinet)
Phone: 022-8806582
Fax: 022-8806582
Price: Rs 5,950

Hard disks (SCSI)
Seagate Cheetah 18XL - ST318404LW - 18GB
+ Blazingly fast
– Heats up quite a lot



Contact: ACI
Phone: 022-8595830
Fax: 022-8595831
Price: Rs 16,500

Hard disks (IDE)
IBM Deskstar 75GXP DTLA-307075 - 75GB
+ 10,000 RPM; good data transfer
+ 1 MB buffer
Contact: Wales Technologies
Phone: 022-3828100
Fax: 022-3828200
Price: Rs 19,500

DVD drives
Aopen 1640 Pro DVD
+ 16x DVD speeds; 512 KB cache
+ Good build quality
– Does not support DMA
Contact: Yogi Comp



CD drives
ASUS CD-S500
+ Good performance
– Slightly inferior build quality
Contact: Rashi Peripherals
Phone: 022-8260258
Fax: 022-8190766
Price: Rs 3,000

CD-RW drives
Plextor W1610TA
+ High write and rewrite speed
+ 2 MB buffer
Contact: Zeta Technologies
Phone: 022-4102277
Fax: 022-4102277
Price: Rs 13,950

Laser Printers
Lexmark Optra M412



+ Good print speeds
– Image quality isn't that good
Contact: T.V.S. Electronics
Phone: 044-2325506
Fax: 044-2327577
Price: Rs 42,995 + taxes

Inkjet Printers

Epson Stylus Color 880

+ Very quiet; good results
+ Print resolution of 2880 dpi
Contact: Epson India
Phone: 022-8257286
Fax: 022-8267287
Price: Rs 19,000

Scanners

Epson Perfection 1640SU



+ Transparency unit included as standard accessory
+ Fast image scanning
– Too bulky (4.5 kgs)
Contact: Epson India
Phone: 080-5321266/70
Fax: 080-5581799
Price: Rs 22,500

PCs

Dell Dimension 4100



+ Customisation possible
– Too compact for expansion
Contact: Dell Computers
Phone: 1600338044 Toll free
Fax: 1600338046 Toll free
Price: Rs 81,999

Laptops

Zenith 21A Corporate Notebook

+ Feature packed
+ Excellent performance
– A little bulky
Contact: Zenith Computers
Phone: 022-8377300
Fax: 022-8364859
Price: Rs 1,25,000

External Storage Devices

IOMEGA 2GB Jaz

+ Very good price per MB; hard-disk-class performance
Contact: Neoteric Infomatique
Phone: 022-4172600
Fax: 022-4163679
Price: Rs 17,500

Handhelds

HP Jornada 680E

+ Power 133 MHz processor
+ Colour screen
Contact: Hewlett-Packard
Phone: 011-6826000
Fax: 011-6826030
Price: Rs 39,000

MP3 players

Creative NOMAD Jukebox

+ Excellent sound quality; onboard audio processing; USB interface
– Has moving parts
Contact: Compuage Infocom
Phone: 022-4913986
Fax: 022-4919069
Price: Rs 32,000

Keyboards

Logitech Cordless Freedom Navigator

+ Very comfortable
+ Extensive configuration options
Contact: Rashi Peripherals
Phone: 022-8260258
Fax: 022-8190766
Price: Rs 7,750

Digital Cameras

ClickiT! DCE-400

+ Good picture quality
+ Effortless connectivity
Contact: Memphis Technology
Phone: 022-8523439
Fax: 022-8523460
Price: Rs 19,999

Pointing devices

Logitech Cordless Mouseman Wheel

+ Good accuracy with features; resilient to dirt
+ Many extra function keys



Contact: Rashi Peripherals
Phone: 022-8260258
Fax: 022-8190766
Price: Rs 480

SOFTWARE

Operating systems (Linux)

SuSE Linux 7.0

+ Simple to install; many bundled applications
Contact: G. T. Enterprises
Phone: 080-6606093
Fax: 080-6671407
Price: Rs 1,800

Operating systems (Windows)

Windows 2000 Professional

+ Very stable
– Heavy on system requirements
Contact: Integrated Business Solutions
Phone: 022-8214701
Fax: 022-8328240
Price: Rs 8,400

Office Suites

Microsoft Office XP



+ Rich features
– Expensive
Contact: Microsoft (India)
Phone: 011-6294600
Price: Rs 20,500

OCR Packages

FineReader Pro 5.0

+ Quite accurate
Contact: Vikmans Multimedia
Phone: 011-6472325
Price: Rs 5,000

Antivirus

Norton Antivirus 2001

+ High detection rate
+ Good script blocking capability
– Resource hungry
Contact: N & N Systems
Phone: 022-3680512/17/18
Fax: 022-3680513
Price: Rs 1,600

Firewalls

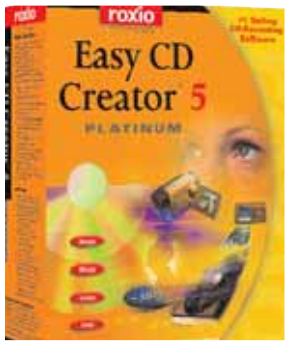
ZoneAlarm Pro 2.6

+ Good performance
– No protection against ActiveX controls
Contact: www.zonelabs.com
Price: Rs 2,000 (approx)

CD-burning software

Easy CD Creator 5 Platinum

+ Very fast writing speed
Contact: www.roxio.com
Price: Rs 3,600 (approx)



Voice recognition

Dragon NaturallySpeaking v5.0 (Preferred Edition)

+ Impressive speech recognition
– High on system requirements
Contact: HCL Infosystems



Phone: 011-4526518
Fax: 011-4526579
Price: Rs 17,995

Accounting Software

FACT 1.90

+ Exhaustive feature list
– No security for database
Contact: Vedika Software
Phone: 022-5006490
Fax: 033-2400824
Price: Rs 14,500

Take a Chance on me!

It was a chance meeting that brought Joann and Chance together. And everyone agrees that it's a case of love at first woof!

We usually think of Joann, our ace interface designer, as somewhat of a tomboy. And you can't blame us—this girl plays the drums, zooms around on her CBZ bike, and kicks some serious butt in *Quake*. Imagine our surprise when she returned from Goa not with a tattoo or a braid, but with a little puppy, peeking out like a baby kangaroo from the rucksack she had slung across her shoulder.

Turns out that on a three-day training session at Synapse (our training centre in Goa) Joann found the emaciated puppy on the premises. Its hind legs were paralysed and its mother had abandoned it. But it was full of zest, and hopped about on its front legs, winning the hearts of everyone around. Throughout the three days, Joann and Ai Chin of the Multimedia team sneaked away during the session breaks to feed it. When it was time to return to Mumbai, Joann didn't have the heart to leave the little thing behind in some dog shelter, so she decided to bring it back with her. After dozens of suggestions ranging from the practical 'Doggie' to the classy 'Cloey', the puppy has finally been named Chance.



So Joann's 'one of the guys' image has taken a dent, but she sure is making up for it with a lot of puppy love. Now that the little creature is firmly ensconced in her house, Joann is having to sacrifice some of her 'wild' ways, but one look at the two of them together, and we know she thinks its worth it. She very happily spends all her free time looking after Chance, going back home at lunchtime to check on her little ward and going straight home after work.

Chance has been welcomed with open arms into the Digit family, and was the guest of honour at the last 'girlie party' (Chance is a bitch, so the girls didn't have to break their no-guys-allowed policy. Sigh.) She had a great time being fussed over by all the women, although she was slightly miffed at dinner-time, when she had to have Farex while the big girls ate chicken biryani.

Joann has found plenty of volunteers to baby-sit Chance if she wants to take off once in a while. In fact, one look at those hazel eyes and everyone starts clamouring for their turn to mollycoddle Chance. Except for Jasmine of course. Our International Marketing manager is Joann's roommate and she's learning to live with the puppy, but that doesn't mean she has to like it. Last we heard, she was expressing her disapproval about being woken up with a couple of good ol' doggie licks across her face every morning.

Chance has had a couple of visits to the vet, and is undergoing treatment for her partial paralysis. The vet is not sure if and when this ailment will be cured, but Joann and Chance are willing to take a chance.

The Web site Story

Once upon a time, there was a guy named Sunil S. Now SS was a writer for you favourite technology magazine, but he had a burning passion for programming for the Web. It is but natural that he should move on to become a full-time programmer for our Web site.

Everything fine so far. Except that his work cycle was such that during the days when the Digit editorial used to be in a tizzy about getting the magazine out, he was relatively free. And never one to let by an opportunity to tease the rest of the team, SS would put up his feet and taunt every hassled-looking soul who passed by about how life as a programmer was so much more fun.

That was until the new site launch came along and with it came four days and nights of non-stop work! Of course, the rest of the gang pitched in to do their bit. The writers had a brainstorming session to figure out a name for the site and came up with gems like 'humsubkadigit.com' and 'merawaladigit.com'. Sunil's co-worker Aalaap G was his usual reliable self. So what if he happened to interchange the Mindware and Playware pages? Then there were the copy editors, who volunteered to insert taglines into the articles to be uploaded. It's another thing that they changed all the <intro> tags to <introduction> in true copydesk style.

But the site is up and running…and they all lived happily ever after.

Hot Stuff

You think a Pentium 4, 1.7 GHz with a GeForce3 3D card and four Seagate Cheetahs configured in



RAID is really hot? Now we've got a PC for you that's really hot…so hot that it actually melted! Take a look for yourself…
Contributed by: Nitin Garg, via e-mail

Designer toilets anyone?

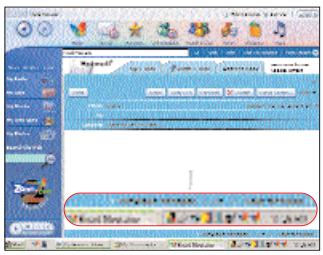


So you really dig the Apple iMac huh? Well, here's another apple product that you might want to upgrade to!
Contributed by: Nitin Soni, via e-mail

Your chance to BACKBYTE!

Highlight the lighter side of computing. Mail your contributions to Backbyte
Digit, Plot D-222/2,
TTC Industrial Area, MIDC,
Shirvane, Nerul,
Navi Mumbai 400 706
or send e-mail to
backbyte@jasubhai.com

Bottom of the Charts



Man, don't you feel bad when you don't receive mail for quite a while? Makes you feel soooooooo unpopular! Small fry, compared to this! According to MSN Explorer, this Digit reader is most unpopular…his inbox shows 1 of –7 mails!
Contributed by: Rahul Rai, via e-mail

Great balls of fire!

Here's some serious protection for your Web site. Well folks, as they say, attack is the best form of defence. So Firewalls are out, fireballs are in! See if throwing these at hackers is more effective.



We're wondering whether to do a test drive on these babies in our next issue.
Contributed by: Rohan Nathaniel, via e-mail

RETRO

Mouse Tales

On November 17, 1970, Patent 3,541,541 was awarded to a rather ambiguous sounding device, the ' For A Display System', more commonly known to you and me as the computer mouse.

Interestingly, the humble mouse was invented way back in 1963-64, long before the advent of personal computers. Its inventor, Douglas C Engelbart, has a total of 20 patents to his credit, and has also developed such famous computing tools as videoconferencing, multiple-window screens and hypertext besides.

Although hundreds of millions of computer mice have been sold since, Engelbart's financial reward has been minimal.

At the time he was working on the mouse, he was working for the Stanford Research Institute, which assumed full rights to the patent. However, the institute ultimately gave him "a $10,000 check".

Readers Rants

Virus Update

Here's a list of the most recent viruses discovered. And some of the most hilarious definitions to go with each!

Adam and Eve Virus: Takes a couple of bytes out of your Apple

AT&T Virus: Every three minutes it reminds you what a great service you are

Freudian Virus: Your computer is obsessed with marrying its own motherboard

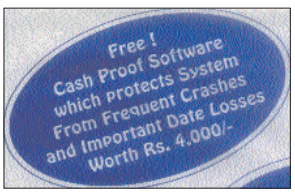
Michael Jackson Virus: Hard to identify because it is constantly altering its appearance

Nike Virus: Just DO It!

Politically Correct Virus: Never calls itself a 'virus'. Instead, calls itself an 'electronic micro-organism'
Contributed by: Suraj Thapa, via e-mail

Enjoy!!

Here's something you might find extremely handy, especially if you're in the habit of juggling girlfriends! It's a software that protects you from important date losses. And by the way, it's cash proof!



Contributed by: Soniya Mathur, via e-mail

High ambitions. Way too high!

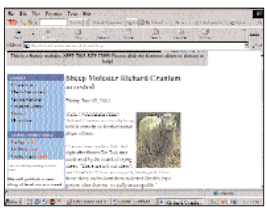
Now here's someone with ambitions that differ from the rest of us. This beauty contest participant hopes to one day be…an AIR HOSTAGE!! Think she won?



Contributed by: Sumit Raj, via e-mail

Arresting Stuff

Tired of being at the receiving end of jokes and being ragged by your cousin, friend, brother or sister? Here's how you can get back at them…get them arrested! That's right; **www.wasarrested.com** lets you arrest anyone you like by creating prank news reports on a variety of crimes. These reports are then posted at a particular URL, which you can mail to your victim. Such fun!



Taken from the Net